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## ADDRESSES.

### ENTERORRHAPHY; ITS HISTORY, TECHNIQUE AND PRESENT STATUS.

PRESIDENT'S ADDRESS.

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A study of surgical literature brings the conviction that the successful treatment by direct operative intervention of injuries and surgical affections of the intestinal tract is one of the most brilliant achievements of modern surgery. Less than fifty years ago many of the most famous surgeons regarded the direct treatment of wounds of the intestines as a *noli me tangere*, under the belief that nature's resources would prove more successful in saving the life of the patient than the surgeon's efforts in closing the wound by artificial means. The intentional infliction of an intestinal wound by the surgeon for the purpose of correcting mechanical difficulties anywhere in the intestinal canal and the removal of life-threatening affections by operative procedure are subjects which have been seriously discussed and extensively practiced only during the last twenty-five years. It is advisable and profitable during the present time that has witnessed such wonderful advancements in surgery to make occasionally a halt in the restless search for new discoveries and novel operations to take a retrospective view of what has been done in the past in certain departments of surgery that have recently been subjected to such complete revolutionary changes. No part of abdominal surgery has undergone more radical changes than the intestinal suture, and in none is the contrast greater between the ancient and modern methods. I have deemed it advisable on this occasion to give you, in place of a general address, as brief a resumé as possible of the history, technique and present status of enterorrhaphy.

#### HISTORY AND TECHNIQUE.

The history of the intestinal suture is full of interest to the student of surgical literature. It is replete with stupendous ignorance, clever mechanical ingenuity, patient experimental research, and the careful application of pathological knowledge to the treatment of injuries and diseases of the intestinal canal. From an anatomico-practical standpoint the history of the intestinal suture can be divided into three epochs: 1, ancient; 2, modern; 3, recent. The ancient history extends back from Lembert (1826) to the time of Celsus. The modern history commenced with the researches of Lembert, which proved that healing of intestinal wounds takes place most constantly and speedily if the serous surfaces are brought and kept in contact by the sutures. The third period was initiated by the introduction of the aseptic suture by Lister, and will necessarily extend far into the future. We have reason to believe that the technique of intestinal suturing remains an unfinished chapter, and that the ideal method of uniting intestinal wounds has yet to be devised.

#### I—ANCIENT METHODS.

Celsus mentions the intestinal suture, but speaks disparagingly of its use. It is probably on this account that the subject did not receive any attention until Abulkasem (II, 87) again revived it. This author recommended the jaws of large ants with which to unite the wound, and also refers to catgut made of the intestine of the sheep as a suturing material. The oldest suture, and the one to which nearly all of the old authors refer, is undoubtedly the glover's suture. This suture was intended to approximate the cut margins of the intestinal wound in the same manner as any ordinary wound, and was used for the double purpose of preventing the escape of intestinal contents, and of keeping the visceral in close contact with the external wound, consequently the two ends of the suture were brought out of the external wound and fastened in some way upon the surface of the abdomen until the time had expired when it was deemed safe to remove the thread.

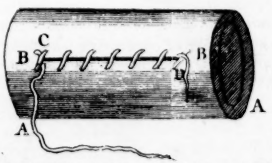



Fig. 1. Glover's suture used for uniting wounds of the intestines. AA, the intestine; BB, the wound; C, the beginning of the suture, with part of the thread hanging out; D, the end of the suture, where it is fastened in a knot.

Figure 1 is taken from Heister's Textbook of Surgery, translated by Hollingsworth, 1739, and represents the glover's suture as applied by the ancient surgeons. Roger, Jamerius, and Theodorich of Servia, inserted into the bowl a hollow cylinder of elder over which the wound was united by sutures. The cylinder was used for the purpose of keeping the lumen of the intestine patent. Wilhelmus v. Saliceto (Cerlata, Chir. Venet., 1520, page 107) used a segment of the dried intestine of an animal with the same object in view. Later, he agreed with his colleagues that the best material to assist the suturing would be the dried trachea of a goose or some larger animal, and thus originated the suture of the four masters. The foreign substance was not fastened in the bowel; after its insertion into the lumen the mar-

gins of the wound were united by ordinary interrupted sutures, which embraced the entire thickness of the intestinal wall and the ends of which were left long and were brought out of the external wound.

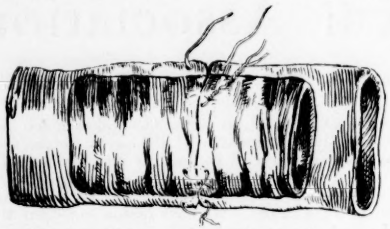


Fig. 2. Suture of the four masters.

The process of the ancients, however, had attracted so little attention that Du Verger, who revived it at the beginning of the last century, considered himself its author. It would not appear, moreover, that it had been frequently made trial of, or that it proved successful more than two or three times.

Du Verger modified the suture of the four masters by including the tracheal cylinder in the sutures as is shown in Fig. 3. Sabatier substituted for the

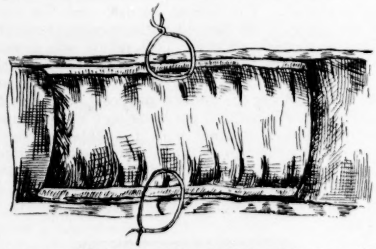


Fig. 3. Suture of Du Verger. Sutures including the tracheal cylinder.

trachea a cylinder of cardboard which he besmeared with sweet oil, essence of turpentine, or oil of St. Johnswort.

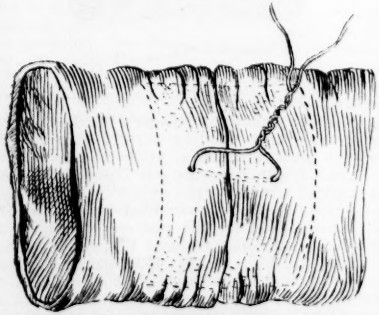


Fig. 4. Suture of Sabatier.

Sabatier used only one stitch in fastening together the two ends of the bowel and the cardboard cylinder, as will be seen by the accompanying illustration. The four masters used four stitches, Du Verger two, Sabatier one; when Ritsch ("Transactions of the Academy of Surgery," Paris, vol. i) modified the procedure still further by passing the thread from side to side through the center of the bowel and the cylinder, when the ends were twisted and brought out of the external wound.

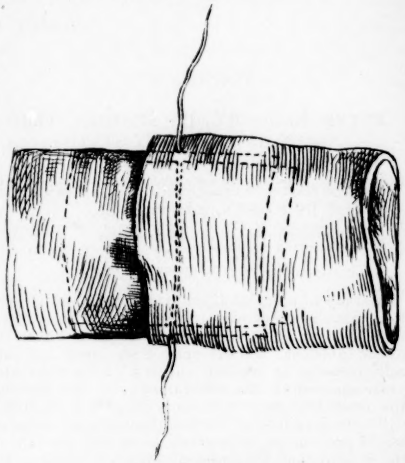


Fig. 5. Suture of Ritsch.

Watson ("Medical Communications," Vol. ii) recommended a cylinder of fish glue. His experiment on a dog proved successful. Ph. von Walther advised a tube of India rubber.

It is not surprising that the methods of suturing heretofore described did not add to the reputation of intestinal surgery, and that many of the most prominent surgeons of that time opposed closure of intestinal wounds by artificial means.

Guy de Chauliac approved of the suture only in the treatment of wounds of the large intestine, for which he recommended the glover's suture. Vigo, Fallopius and Fabricius ab Aquapendente regarded wounds of the small intestines as absolutely fatal.

Hyeronimus Braunschweig (Das Buch der Cirurgia, Strassburg, 1497) alludes to Galen and others as opposing the intestinal suture. He is in favor of the procedure and advises the glover's stitch in preference to the ordinary suture. After suturing the intestine he cleansed the part and applied a powder of equal parts of mastich, tragacanth, and gum arabic. He relates a remarkable case which occurred in the practice of Saliceto, one of the four masters. A cavalier of Papia (Pavia) stabbed himself in the abdomen with a knife in such a manner that the intestines prolapsed. A longitudinal wound of the intestine was found. Master Ottebanus of Papia was called, who pronounced the injury a fatal one. Owing to the swelling of the protruded intestines he failed in effecting reduction. Saliceto was called in consultation who cleansed the intestines, sutured the wound, enlarged the abdominal opening, reduced the mass and saved the would-be suicide.

In 1686 Richard Wiseman ("Chirurgical Treat-

ises," second edition, London, 1686, p. 372), the great English surgeon, writes on this subject as follows:

"If in such a penetrating Wound the small guts be wounded, the vehement Pain, continual vomiting of Choler, and dejection of Chyle by the Wound, will discover it; but in that case, the keeping of it open to seek the Intestine will be a hard task; and when you have found it, what will it signifie, to embrocate all the Region of the Belly with Ol. mastich lumbric, to dress the wound with Sarcoticks, and to keep it close and warm with Compress and Bandage. But if the great Intestines be wounded, and the Excrements discharge that way, it may be reasonable to lay open the Wound, and stitch the Gut with the Glover's stitch, sprinkling it with some of the aforesaid Agglutinatives; and reducing it back, stitch up the external Wound of the Belly, as hath been said."

It appears that more than fifty years later the consensus of opinion among surgeons in reference to the utility of the direct treatment of intestinal wounds had not undergone any material change if we rely on another eminent authority of that time. Heister in his classical work on Surgery (Hollingsworth's Translation, 1739) cautions not to suture intestinal wounds smaller in diameter than a goose-quill, after which he continues:

"But large Wounds of the Intestines, though they seldom admit of Cure, are to be stitched up with the Glover's suture, before the Intestine is returned. To perform this, you should be provided with a fine Needle threaded with Silk, an Assistant should take hold of one part of the Gut, with a fine piece of Linen well aired before the Fire, whilst the Surgeon should hold the other part in his Left hand, and sew up the whole wound after the Glover's manner, leaving very small spaces between each Stitch, to-wit—a little more than a mathematical line. The last Stitch should hang out about a foot out of the Abdomen, by which the Silk may be drawn out when the Intestine is healed."

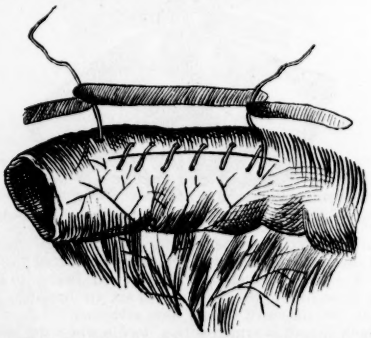


Fig. 6. Heister's method of applying the glover's suture.

After alluding to several other kinds of sutures, he gives his estimate of the value of suturing intestinal wounds: "But, to say the truth, Experience shows us that very few are saved, whatever Suture is made use of." In complete transverse wounds he advises the formation of an artificial anus.

Purmann (Feldscherer, etc., Frankfurth u. Leipzig, 1730) in his military surgery recommends suturing with silk or catgut, using the continued or glover's stitch. The catgut prepared from the intestines of sheep he immerses in wine over night before using it. He also refers to the shoemaker's stitch, but in his own practice always resorted to the glover's suture. In the after-treatment he advises mild cathartics and turpentine injections.

Mr. Samuel Sharp ("A Treatise on the Operations of Surgery," etc., London, 1769) gives the following directions in the use of the glover's suture:

"Upon the Supposition of the Intestine being wounded in such a manner as to require the Operation, the Method of doing it may be this: taking a straight needle with a small Thread, you lay hold of the Bowel with your left hand, and sew up the wound by the Glover's stitch, that is, by passing the Needle thro' the lips of the Wound, from within outwards all the way, so as to leave a Length of Thread, at both Ends, which are to hang out of the incision of the Abdomen, then carefully making the interrupted Suture of the external wound, you pull the bowel by the small Threads into Contact with the Peritonæum, in order to procure an Adhesion, and tye them upon a small Bolster of Linen; tho' I think it would be more secure to pass the Threads with the straight Needle through the lower Edges of the Wound of the Abdomen, which would more certainly hold the Intestine in that Situation. In about six days, it is said the ligature of the intestine will be loose enough to be cut and drawn away, which must be done without great force; in the Interim, the wound is to be treated with superficial dressings, and the Patient to be kept very still and low."

During the close of the first decade of this century Zang (Darstellung blutiger heil künstlerischer Operationen, etc., Wien, 1818) entertained the most extreme pessimistic views in reference to the value of the intestinal suture as is evident from the following sentence: "Every intestinal suture is a mighty procedure in a highly vulnerable organ, and therefore a dangerous, yes, a very dangerous undertaking." As the most convincing proof of its harmful action, he claimed that the mortality following its use was much greater than when the process of repair is left to nature's resources.

The bad results which followed suturing of intestinal wounds in the hands of the ancient surgeons as well as the observation made that occasionally cases recovered without any aid on the part of the attending surgeon, led the way to the most conservative treatment. It was generally conceded that spontaneous recovery occurred when the visceral wound was in such a locality that no extravasation occurred into the peritoneal cavity, and the wound became adherent to a serous surface, notably the parietal peritoneum. Spontaneous recovery from complete transverse wounds of the intestine by adhesion of the margins of the proximal end to the external wound was observed by Hildanus, Blegny, Dionis, Palfyn, Joh. Maur, Hoffmann, Seebacher, Vater, Cheselden and others. This induced surgeons to imitate nature's processes by bringing the intestinal wound or the ends of the divided bowel into the external wound, in which position the wounded intestine was fastened by passing a thread through the mesentery, and fastening it upon the surface of the abdomen. This operation was first performed successfully on a dog by Blegny (Zodiac, Gall. Au. 2, p. 143). Schacher (Programmate Publico, Leipzig, 1720) reported the first successful operation of this kind on man. Verduc and von de Wyl were opposed to the intestinal suture and advised the formation of an artificial anus, especially in cases of transverse wounds.

It is probable that Paracelsus was the first to propose this method of treatment. Palfyn rejected all kinds of intestinal sutures and advised that in all wounds of the intestine easily accessible, the visceral wound should be brought in close contact with the external wound and the intestine held in this position by a thread passed through the mesentery until the intestine became firmly adherent to the abdominal wall.

Palfyn's method of fixation of the intestine against the abdominal wall is illustrated by Fig. 7.

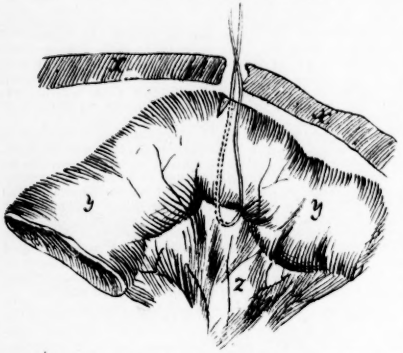



Fig. 7. Palfyn's method of treating intestinal wounds. *a*. Thread passed through mesentery and surrounding the bowel. *y*, Intestine. *z*, Mesentery. *x*, Abdominal wall.

As the traction by the mesenteric ligature must have caused narrowing of the bowel, Palfyn's method was modified so as to obviate this difficulty by passing the needle and thread twice through the mesentery and bringing both ends of the thread out through the external wound on each side of the bowel as is shown by Fig. 8.

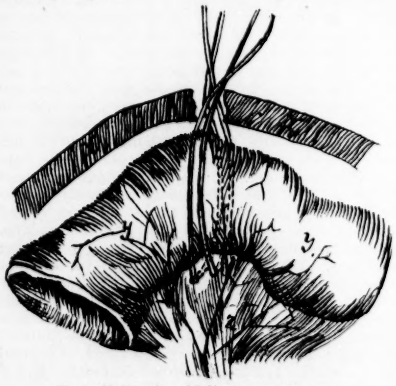



Fig. 8. Modification of Palfyn's mesenteric loop.

De la Peyronie's ("Mem. de l' Academ. de Chirurgie," T. III, 1733) method differed somewhat from Palfyn's, in that he stitched the bowel at the same time to the margin of the external wound. Other surgeons dispensed with the mesenteric loop entirely and fastened the injured part of the bowel to the inner surface of the abdominal wall by a suture which embraced both lips of the visceral and parietal wounds.

In complete transverse wounds of the intestine Benj. Bell recommended that each end of the bowel should be fastened to the corresponding margin of the external wound by an interrupted suture.

Reybard ("Mémoires sur le traitement des anus artificiels, des plaies des intestins et des plaies pénétrantes de poitrine," Paris, 1827) maintained that

Fig. 9. Fixation of injured bowel to abdominal wall by a single suture.

the principal object of the intestinal suture is to bring the visceral wound in contact with the inner surface of the abdominal wall and the external wound, thus securing healing of both wounds by adhesions, and acting on this supposition he devised an exceedingly ingenious plan in accomplishing this

Fig. 10. B. Bell's method of attaching the visceral to the parietal wound.

result without the use of sutures. In longitudinal and incomplete transverse wounds he resorted to the use of a thin oiled plate of light wood, twelve to fifteen lines in length, and four to six in breadth, to which two pieces of thread were attached.

Each thread is armed with a needle when the plate is inserted into the bowel through the wound, and the needle with the thread attached is passed through the entire thickness of the abdominal wall and brought out on the surface near the margin of the external wound. When both threads are in place they are tied together in such a manner that the small plate of wood presses at the same time the two lips of the intestinal wound against the sides of the abdominal wound, which latter it also at the same time keeps hermetically closed. When the adhesion of these different tissues appears to have become sufficiently firm (usually the third day), the threads are cut; the little plate of wood is released and passes away with the stools.

There can be no question that the intentional formation of an artificial anus in the treatment of in-

testinal wounds, so strongly advocated by Scarpa ("An. Chir. Abh. über die Brüche," Leipzig, 1892, p. 280; translated by Seiler from the Italian), and many of his contemporaries, yielded much better results as a life-saving measure than the old-fashioned suture. We have reason, however, to believe that in many instances in which life was saved the artificial anus remained permanently, constituting a great annoyance, and often an additional source of danger throughout the balance of the lifetime of the survivor. The great mortality attending this procedure and this remote sequence undoubtedly aroused surgeons to devise new methods of suturing. So firmly had the opinion gained ground that intestinal wounds could not heal by direct union that v. Walther (System der Chirurgie, Freiburg, 1851), as

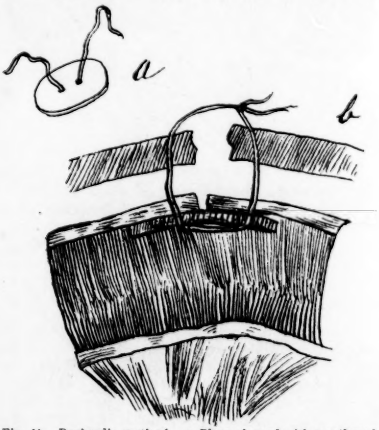



Fig. 11. Reybard's method. *a*, Plate of wood with two threads; *b* plate *in situ* and fastened to abdominal wall by a suture including plate, wall of bowel and abdominal wall.

late as 1851, asserted that healing always takes place by parietal or omental adhesions. He insists that Larrey was wrong when he asserted the contrary and

Fig. 11 *a*. Suture after Garengeot.

excuses his mistake by asserting that when he made his observations he did not have the necessary material to enable him to arrive at correct conclusions. The next class of sutures to be described resembles the old-fashioned glover's suture in so far that the different sutures were intended to prevent the escape of intestinal contents, and at the same time by leaving the threads long they could be utilized in anchoring the visceral against the ventral wound.

Garengeot modified the ordinary glover's suture only in so far that he placed the stitches farther apart.

Larrey ("Revue Médicale, 1820, iv, p. 77) regarded a single row of the continued suture as unsafe and advised in its place two rows, using for each row threads of a different color, and making the stitches in opposite directions. He recommended removal of the two threads at the end of seven or nine days

Fig. 12. Larrey's double the glover's suture.

Benj. Bell feared the removal of the suture and objected to the ordinary glover's suture because he believed it produced dangerous narrowing of the lumen of the bowel. He modified the glover's suture in such a manner that he passed the needle from within outward terminating the thread at each end with a knot and cutting the thread short to the knots. He relied on the suture cutting its way into the lumen of the bowel to be discharged with the feces.

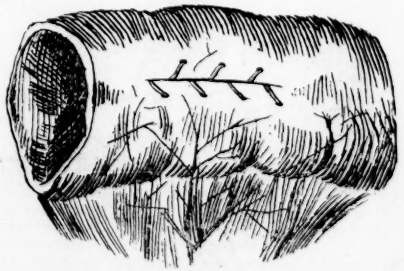


Fig. 13. B. Bell's suture.

Bertrandi and Petit devised the *sutura transgressiva*. It is made by bringing the margins of the wound in contact, passing the needle from right to left, then from left to right alternately and bringing both ends of the thread out of the external wound in order to bring both wounds in contact.

Le Dran ("Traité des Opérat.," Paris, 1743) takes as many threaded needles as stitches are required,

Fig. 14. Petit's sutura transgressiva.

and passes them three lines apart through both margins of the wound. Ties together the ends of the threads of each side and twists the two bundles of threads. The intestine is thereby puckered up and sutures approximated.

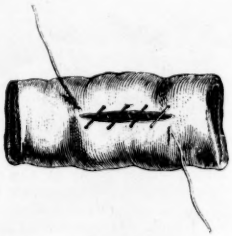


Figure 14 *a*.

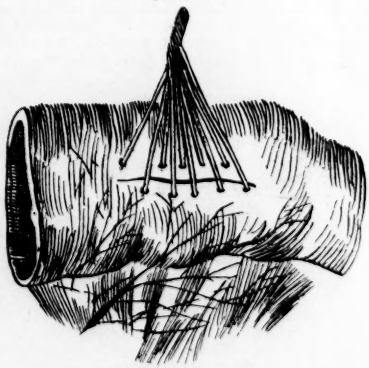


Fig. 15. La Dran's method.

He claims that by this procedure the intestinal wound is greatly diminished in size, and often heals without leaving a fistula; at the end of four to six days the threads are untwisted and removed. Richter twisted each suture separately without tying it and brought them out of the external wound with which to fasten the bowel against the abdominal wall.

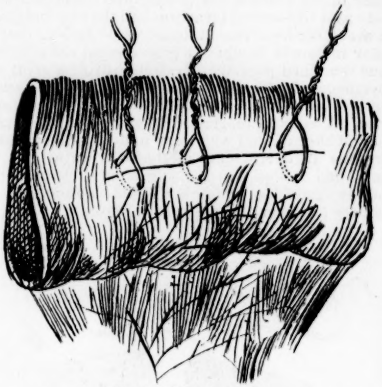


Fig. 16. Richter's method.

Löffler crossed the threads of each suture only once and fastened the ends upon the surface of the abdomen.

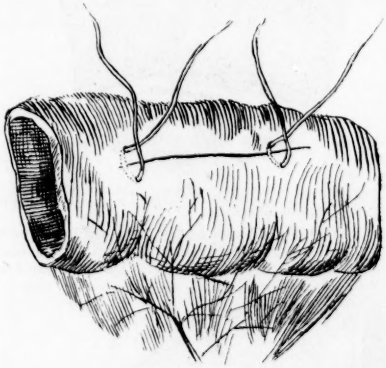


Fig. 17. Löffler's method.

With the exception of the suture devised by B. Bell, all of the modifications of the glover's suture were intended to anchor the visceral wound opposite or in the external wound and were removed as soon as the intestine had become firmly adherent, that is, in the course of four to seven days. In many of the cases in which life was saved by this kind of surgery a fistulous opening remained, which in those days it was found difficult to remedy. With a view of preventing this unpleasant remote complication surgeons commenced to unite the ends of the bowel in complete transverse wounds by invagination. The first trials were extremely crude, and the results correspondingly disastrous. Ramdohr recommended invagination as a means of uniting the ends of the intestine in complete transverse wounds as early as 1730. Having under treatment a soldier in whom

the continuity of the intestinal tube had been destroyed, he proposed to insert the upper into the lower end, to fasten them together in this position by means of one point of suture, then to reduce them and leave them in the abdomen, fastening the bowel to the abdominal wall by the suture. His patient recovered. As he died some years after of some other affection, Ramdohr being thus enabled to examine the condition of the parts, removed the portion which had been formerly divided, and sent it to Mœbius, who took occasion to show it to Heister, which latter upon the strength of this, made experiments of the same operation on dogs, but without success.

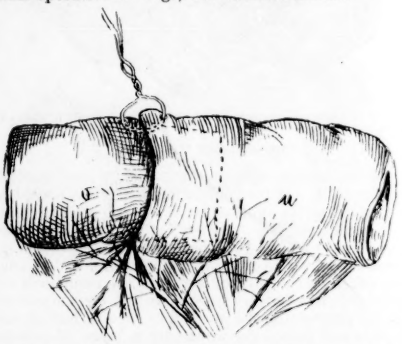



Fig. 18. Ramdohr's method of invagination. O, upper end; U, lower end.

The method of Ramdohr, which has been eulogized by some, rejected as impossible or dangerous by others, admitted as very ingenious by Louis, and made trial of in a great number of instances since it has been known, does not appear to have succeeded but in a very small number of cases. Louis aimed to improve Ramdohr's method by detaching the mesentery from the upper end to the extent of the intended invagination for the purpose of guarding more effectually against disinvagination.

Fig. 19. Method of invagination of Louis.

Benj. Bell inserted a solid cylinder of tallow into the upper end of the bowel before making the invagination, and fastened the bowel with two rows of interrupted sutures which included the entire thickness of both intestinal walls at each cut end of the bowel.

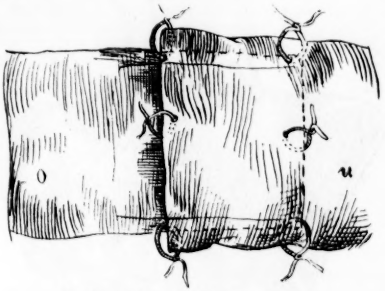



Fig. 20. Benj. Bell's method of invagination.

Chopart and Desault, recognizing the difficulties encountered in making the invagination, lined the upper end of the bowel with a cylinder of cardboard which was included in a single ligature passed through the bowel from side to side, when both ends of the thread were passed with a needle in the lower end from within outward, when the invagination was effected by making traction upon the threads and the invagination maintained by fastening the threads upon the surface of the abdomen.

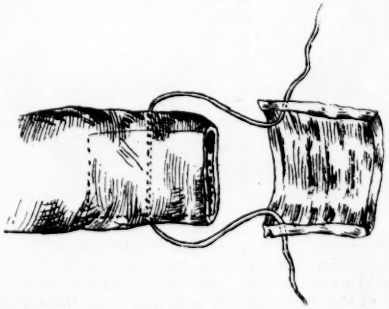


Fig. 21. Chopart and Desault's method of invagination in complete transverse wounds.

These authors applied the same principle of treatment to incomplete transverse wounds of the intestine. The upper margin of the wound was transfixed by a single suture transversely from within outward, when the ends were passed with a needle through the lower margin from within outward and tied, making thus the lower margin overlap the upper, bringing in contact its mucous surface with the peritoneal surface of the upper.

As all these methods had the common fault of approximating mucous membrane with peritoneum, it is not difficult to understand that none of them survived the practical test for any length of time. The seriousness of this technical mistake was first pointed out by Richerand. The researches of Bichât have shown that mucous membranes do not contract adhesions with each other; and that adhesive inflam-

mation takes place most surely and speedily between serous surfaces.

Fig. 22. Chopart and Desault's method of uniting transverse wounds of the intestine. *a*, Suture in place; *b*, suture tied.

Fig. 22 *b*.

Travers ("An Inquiry into the Process of Nature in Repairing Injuries of the Intestines," London, 1812) experimented with the old suture including all of the tunics of the bowel, but cut the threads short to the knot and did not fasten the intestine against the abdominal wall as had been the general custom up to that time. He found that the intestinal wounds in animals thus treated usually healed. The sutures cut their way through the tissues in the direction of the lumen of the bowel and passed away with the feces. He placed the sutures very closely so as to secure ample mechanical protection against the escape of fluids, while Astley Cooper placed them much farther apart, using only a sufficient number to prevent fecal extravasation. In small wounds and limited gangrene Astley Cooper made a small cone on the affected side of the bowel by seizing the wound or gangrenous patch and applied a ligature of fine silk around the base. The ligature cut its way into the bowel during the time the defect became sealed by plastic lymph. The necrosed mass and ligature escaped into the bowel through the defect made by the ligature.

Fig. 23. Astley Cooper's method of dealing with small wounds and circumscribed gangrenous patches.

## II—MODERN METHODS.

The researches of Richerand, Bichât and Travers prepared the way for Lembert to institute a complete revolution in the application of the intestinal suture. Until his time the discovery that adhesions take place most rapidly between serous surfaces was ignored in the use of the intestinal suture, and if success followed the surgeon's efforts the result was attributable less to the suture than the circumscribed plastic peritonitis, the product of which buried the sutures and sealed the wound by a mass of plastic lymph. To Lembert is conceded almost by universal consent the credit of having established the modern doctrine concerning the healing of intestinal wounds. As is the case in all great discoveries, claimants for priority were not wanting. Jobert ("Arch. Gén. de Méd.," T. iv. p. 73) has claimed this honor; Faure ("Arch. Gén. de Méd.," T. x, p. 474) alleges that when he was a pupil of the Hospital of St. Louis, he had proposed before the year 1820, the approximation of serous surfaces in intestinal wounds. Denans ("Soc. Méd., de Marseilles," 1826) also mentions that the suggestions of his process were made without knowledge of the work done by Lembert and Jobert. Lembert claims that he published his first paper on this subject in 1825. ("Bull. de Ther.," T. ix, p. 325). Denans began his experiments in 1823, but they were not published until March, 1824, and the Archives for January of the same year, contain a description of the process of Jobert. There can be no question that through the labors of Lembert the new doctrine gained a firm foothold and was promptly adopted, not only by his countrymen, but by the surgeons in England and Germany. Lembert's technique and practice brought about a sudden transition from the ancient to the modern methods. Since his time a great variety of methods have been proposed with a common object in view; to bring into apposition the serous surfaces of the margins of the wound.

Lembert's work initiated the most important era in the history of the intestinal suture. He must always be regarded as the founder of modern successful intestinal surgery. The technique of intestinal work is still open to improvements, but the great principle inculcated by Lembert to rely on the serous coat in procuring early and permanent adhesions will never be rejected.

Fig. 24. Lembert's suture.

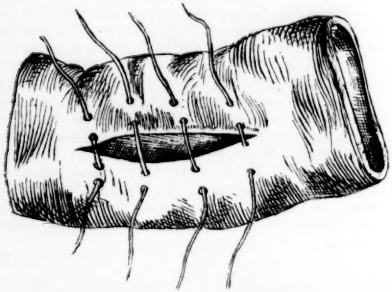


Fig. 25. Lembert's sutures in place.

His first paper on this subject was published in 1826. (Répertoire Général d' Anatomie et de Physiologie pathologique," T. ii, 3, 1826). He used interrupted sutures of fine silk, and cut the threads short to the knot, making no provision for fastening the bowel against the abdominal wound. The point of the needle is introduced upon the external surface of the intestine at the distance of two or three lines from the margin of the wound; he penetrates through the tissues as far down as the mucous membrane, brings it out at one or two lines distance from its place of entrance; applies the needle with the same precautions upon the external surface and into the tissues of the opposite side. He places the sutures about three to four lines apart, and when they are all in place commences to tie from one end, turning the margins of the wound carefully toward the lumen of the bowel with a probe.

After completion of the suturing the part presents externally a linear depression with a corresponding

Fig. 26. Jobert's suture.

ridge on the inner side. This method secures serous approximation to the extent of space included by the sutures. The sutures become encysted and do not cut their way into the lumen of the bowel. Lembert's suture has been variously modified at different times. Jobert included in the suture the entire thickness of the wall of the bowel.

Breidenbach tied the knot on the inside of the lumen of the bowel.

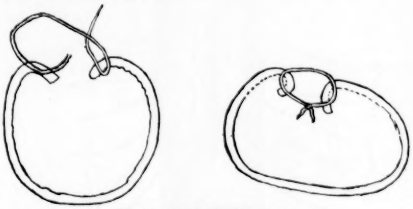


Fig. 27. Breidenbach's suture.

Dupuytren made the Lembert stitch in the form of the continued suture.

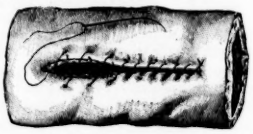


Fig. 28. Dupuytren's suture.

Dieffenbach included in the suture only the peritoneal coat.

Gély ("Recherches sur l' emploi d' un nouveau procédé de suture contre les divisions de l' intestin," Paris, 1844) armed each end of the thread with a needle. A loop is formed by transfixing the serous and muscular coats at one end on each side of the wound about 4 mm. from the margins of the wound, grasping about 5 mm. of surface. The needles and threads are then crossed and similar stitches taken and the process repeated until the opposite angle of the wound is reached, starting with the stitch at the subsequent point of exit of the needles. By making traction on the threads the margins of the wound are neatly inverted and only one terminal knot is required.

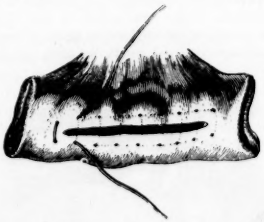


Fig. 29. Gély's suture.

According to Nélaton the advantages of this method are: that the sutures close the wound hermetically and that the thread can escape into the lumen of the bowel.

Blatin's modification of Gély's method consists in using only one needle and two threads of different color, first sewing with one and returning with the other, avoiding the punctures made by the first needle.

Emmert's ("Lehrbuch der Chirurgie," Stuttgart, 1862, p. 232) method of suturing intestinal wounds consists of a series of double Lembert sutures as is well illustrated by Fig. 30.

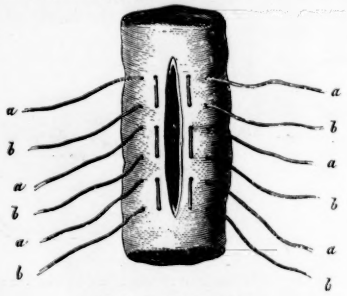



Fig. 30. Emmert's method.

When the sutures are all in place the corresponding threads on each side are tied and the margins of the wound are carefully inverted.

A very strange method of closing intestinal wounds was devised by Bouisson. Two insect pins of the length of the wound are pushed through the tissues parallel to and about 2 mm. from the margins of the wound. The pins are pushed in and out from the surface of the intestine in the same way as in making a continued suture. A ligature is passed under the free parts of the pins on each side at different points, and as they are tied the margins of the wound are inverted and approximated. All the threads are brought out of the external wound. On the third or fourth day the pins are withdrawn, thus releasing the ligatures which are also removed. Lembert's principle of uniting serosa to serosa was first applied in making the invagination suture by Jobert. ("Mémoires sur les plaies du canal intestinal," Paris, 1827). He modified Ramdohr's method by turning in the edge of the lower end before making the invagination, thus bringing serous surfaces in contact for adhesion. The invagination is made by inserting two sutures at opposite points in the upper end and passing the ends with a needle through the inverted margin of the lower end a few lines apart. By making traction upon the sutures invagination is effected and maintained by tying the sutures.

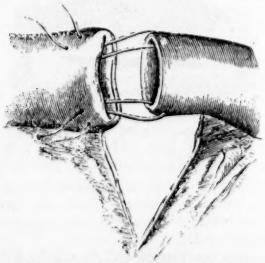


Fig. 31. Jobert's invagination suture.

Jobert's suture has had an extended trial in restoring the continuity of the bowel in the treatment of complete transverse wounds, and has yielded fair results. The most objectionable feature to it is the fixation suture, which being composed of unabsorbable material must finally cut through the tissues which it includes before it can escape into the bowel, a process which is necessarily attended by no inconsiderable risk of extravasation and its consequences —septic peritonitis and death.

Schmidt, Thompson and Travers had observed the singular phenomenon, viz., that if a thread is applied around a small perforation of the intestine, it soon sinks into it as into a depression, in such a manner as to reach gradually the interior of the canal and to become entirely free there, at the same time that the serous coat or surface of the bowel is united behind it, and blended with a layer of plastic lymph as if intended to fill up the opening which, but for that, would have been left. Still more, Travers has found that if the entire caliber of the intestine is strangulated, the peritoneum of the upper portion adheres so rapidly to that of the deeper tissues, that the septum formed by the strangulation soon becomes gangrenous, and is detached and drawn in the direction of the lower part of the bowel in such a manner that the tube ultimately becomes perfectly re-established. Utilizing these facts as a basis, Amussat ("Casper's Wochenschrift f. d. Medicin," 1834, No. 44), made use of invagination and circular constriction in re-establishing the continuity of the intestinal canal.

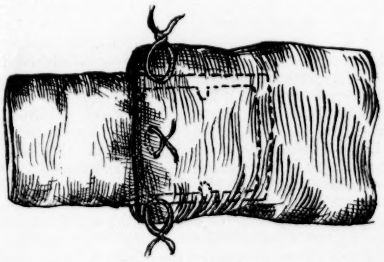


Fig. 32. Amussat's method of invagination and circular constriction. *a*, Invagination; *b*, circular constriction.

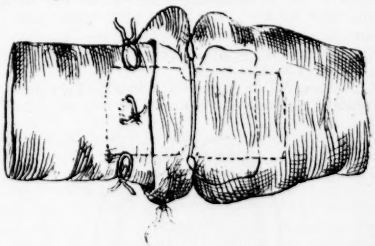


Fig. 32 *a*.

In order to maintain the patency of the bowel he inserted a hollow cylinder of elder into the upper end before making the invagination. This cylinder had a circular groove in the center. The invagination was maintained by a few sutures. A thread was then tied firmly around the bowel at a point corresponding with the circular groove. As soon as the string had cut its way into the bowel the cylinder

was released and passed away with the feces, while the serous surfaces on each side of the groove made by the string became adherent.

Choise ("Thése de Paris," 1837, No. 322), experimented on animals by inserting into the upper end a piece of the trachea of an animal, and after invaginating this into the lower end tied a ligature firmly around the invaginated portion. The ligature soon ulcerated through into the bowel, adhesions between the approximated serous surfaces formed in the meantime, and the ligature and tracheal ring escaped with the feces. The experiments on lower animals were successful. He later substituted a piece of cork for the trachea and obtained similar good results.

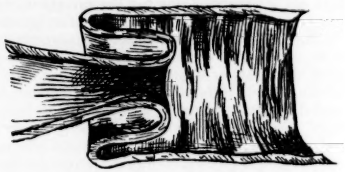


Fig. 33. Béclard's procedure. *a*, Invagination; *b*, circular constriction.

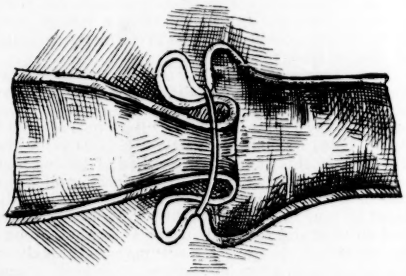


Fig. 33 *a*.

Béclard obtained the same results in his experiments on animals without the use of a cylinder.

After making the invagination he constricted the bowel by tying a thread firmly just below the margin of the ensheathing tube. Zang (op. cit.), detached the mesentery from the upper end to the distance of an inch, and invaginated this part into the lower end after turning in its margins. The invagination was maintained by a mesenteric suture which grasped both sides, the threads of which were brought out of the external wound and fastened so as to hold the invaginated part in the ventral wound. Various efforts have been made at different times to dispense with intestinal sutures by substituting for them some other kind of mechanical support. One of the earliest attempts in this direction was made by Denans ("Recueil de la Societé roy. de Méd. de Marseille," l'Année. 1, 1826), a surgeon of Marseilles. The procedure is an exceedingly ingenious one. In effecting an end-to-end union in the treatment of complete transverse wounds or after resection, he introduces into each end of the bowel a ring of silver or zinc, over which he inverts the margins of the ends of the bowel and connects them by a slightly smaller but wider ring of steel which is cut longitudinally, the margins overlapping so that it can be made smaller by pressure, and exert the necessary peripheral pressure to hold the other two rings firmly together. The central ring is compressed with a pair of strong forceps when it is first inserted into the upper end of the bowel, then into the lower, when the two rings are approximated over it, thus grasping firmly the inverted margins all around. The serous surfaces outside of the grasp of the rings become adherent, the inverted margins subjected to pressure between the rings slough, the rings are released and pass away with the stools.

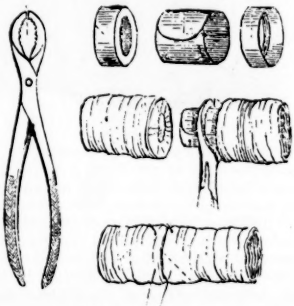
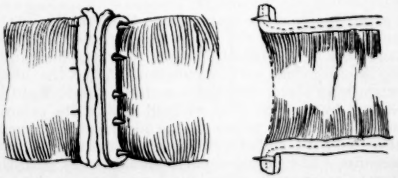


Fig. 34. Method of Denans. *aa*, Rings for bowel ends; *b*, connecting steel spring ring; *c*, upper end of bowel containing ring and proximal end of connecting ring; *d*, lower end of bowel containing ring, margin of bowel turned inward; *e*, two ends joined together; *f*, forceps to aid in the insertion of middle ring.

In his first experiments the connecting piece was a perfect ring, and in order to prevent separation of the ends of the bowel he used two points of suture, as will be seen in the illustration (e). Later ("Noté à l'Acad. de Méd.," 1838), he used the steel spring ring for the connecting part and dispensed with the sutures. His experiments on animals proved very successful. Guersant reported a successful case. Nélaton admires the perfection of the mechanism of this method, but makes the serious objection to it that the rings are not always at hand when needed, and that the passage of such a large foreign body is a matter of difficulty and might lead to fatal complications.

Baudens modified Denans' method by using a single cylinder with a deep transverse groove in the center and two rubber rings. The inverted margins of the bowel ends were fastened upon the cylinder by the rubber rings pressing in opposite directions towards the center of the groove on the outer surface of the cylinder. The inverted margins subjected to



*a*. *b*.

Fig. 35. Method of Henroz. *a*, One end of bowel with ring *in situ*; *b*, ends joined together between the two spiked rings; *c*, ring showing spikes and perforations for spikes of opposite ring.

the elastic pressure sloughed and came away with the cylinder and rubber rings.

Henroz clamped the two ends of the bowel together between two rings, each supplied with a number of sharp metallic points which transfixed the mucous membrane, and by taking hold in perforations in the ring on the opposite side held the rings together and fixed the bowel ends.

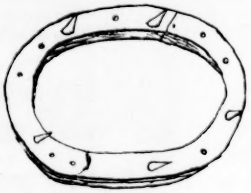


Fig. 35 *c*.

The great objection to this method is that the margins of the ends of the bowel were not inverted; union was effected with the mucous membrane turned outward, consequently it must have proved a failure even in experiments on the lower animals.

Somewhat similar mechanical contrivances that I have described above in the end-to-end approximation of the intestine have been devised in the treatment of longitudinal and incomplete transverse wounds.

Beranger-Feraud ("Des diverses méthodes de reunion des plaies intestinales," Paris, 1870), invented a clamp which he regarded as being especially applicable in the treatment of longitudinal wounds.

*B* *A* *C*

Fig. 36. Beranger-Feraud's cork clamp suture. *a*, clamp ready for use; *b*, clamp closed; *c*, clamp in place holding the serous surfaces of the inverted margins of wound in contact.

Two quadrangular prisms of cork 6 mm. in thickness and as long as the wound are prepared. Fine insect needles are pushed through these pieces of cork about 6 mm. apart, in such a manner that the heads well pushed into the cork are covered with sealing wax. One of the prisms is inserted into the wound, and the points of the pins are made to penetrate the entire thickness of the intestinal wall near the margin of the wound from within outward. After the other prism is in place, the serous surfaces are brought in contact by pressure from without against the prisms, so as to bury the points of the pins in the opposite piece of cork sufficiently deep to insure adequate pressure. The included parts slough away with the clamp; meanwhile adhesions form between the approximated serous surfaces outside of the clamp. For the purpose of giving greater security the two pieces of cork can be fastened together in addition by a curved pin as is shown in Fig. 36, b.

Bobrick ("Med. Vereinszeitung," 1850), described another kind of clamp suture. The clamp is made either of sheet lead or a thin strip of silver the length of the wound. The metal strip is folded in the center in its long axis like the cover of a book, before it is inserted into the bowel through the wound. The margins of the wound are then inverted and engaged between the two leaves of the clamp, when by pressure from without the clamp is closed sufficiently firm to fix the parts included securely. Adhesions form in a short time on the surface outside of the grasp of the clamp, the included parts slough and escape with the clamp. The greatest objection against all the substitutes for the intestinal sutures that have been mentioned, is that a foreign body is left in the intestinal canal which necessarily constitutes an additional source of danger, because spontaneous elimination is attended by many difficulties and risks. In this regard the experimental results are not directly applicable to man. The intestinal canal of dogs is much shorter in proportion to the size of the body than that of man, and the muscular coat is much more developed. Dogs are reckless eaters, and for this reason they have been supplied with an intestinal canal that can dispose of foreign bodies of large size and most dangerous forms. This is not the case in man, hence leaving a foreign substance of any considerable size in the intestinal canal of man is fraught with danger.

That Lembert's method of treating intestinal wounds and its many modifications did not give universal satisfaction, becomes evident from a paper published by Privat in 1846. ("Bull. de Thérapie," Sept., 1846) Under the title of *Autoplastic* he described in this paper a new method of dealing with intestinal wounds which he successfully applied in a case of penetrating wound of the abdomen complicated by four intestinal wounds. The wounds were first sutured and fastened in the abdominal wound by mesenteric loops. The sutures tore through on the second day, when he fastened over each wound an adjacent intestinal loop. On the seventh day three of the wounds were closed and the intestine was returned into the abdominal cavity. The fourth wound was not quite closed and was retained in the external wound. It closed later and the patient made a perfect recovery. He is of the opinion that intestinal wounds can be healed more readily by covering them with an adjacent healthy loop than by suturing. It will thus be seen that in spite of great improvements over the ancient methods, the progress made did not answer the practical demands.

### III—RECENT METHODS.

The second great improvement in intestinal suturing was the introduction of the aseptic suture by Sir Joseph Lister, nearly a quarter of a century ago. We can readily understand that the old septic suture was the direct cause of death in many cases in which the operation was faultlessly performed. Lister taught us to use aseptic material for the sutures and to apply the other principles of antiseptic surgery in the management of intestinal as well as other wounds. The adoption of this method of wound treatment removed a frequent source of septic peritonitis and added much to the success and rapid development of intestinal surgery. The aseptic suture in aseptic

tissues no longer constituted a source of danger. Under this plan of treatment absorbable sutures were removed by absorption, unabsorbable material became encysted without causing harmful irritation. The catgut suture that met at first with such a warm reception by surgeons in the treatment of intestinal wounds has been gradually displaced almost completely by the aseptic silk suture, so that at present but few surgeons rely upon it in the treatment of an intestinal wound. Czerny (Sammlung Klinischer Vorträge, 1881, No. 201) added another row of stitches to Lembert's sutures. He wished to approximate not only the peritoneal surfaces, but also the margins of the mucous membrane in order to prevent escape of intestinal contents between the parts brought in apposition by Lembert's stitches and to place the parts in an ideal condition for repair.

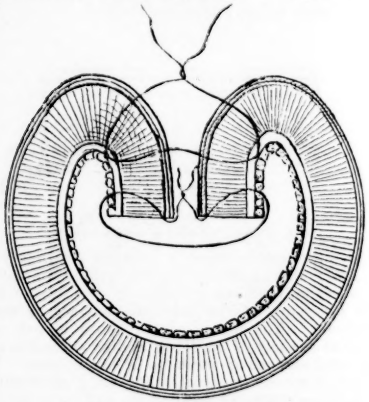


Fig. 37. Czerny-Lembert suture.

Czerny's modification of Lembert's method consists in uniting first the mucous membrane by a row of stitches, which, with the exception of the last one or two, are tied on the mucous surface. These stitches ulcerate into the lumen of the bowel, while the superficial or Lembert's stitches become encysted. In all cases in which two rows of stitches are used in closing a wound or in performing circular enterorrhaphy, this method is usually practiced. If time permits, this method is safer than any of the single row methods.

Gussenbauer devised a figure-of-eight suture which was intended to accomplish the same objects as the Czerny-Lembert suture.

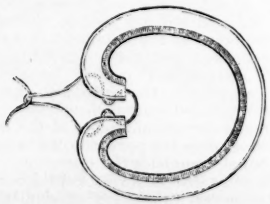


Fig. 38. Gussenbauer's suture.

It is much more complicated than the Czerny-Lembert suture, and does not bring the parts in apposition as accurately, and for these reasons is seldom employed. In circular enterorrhaphy Wölfler sutures the mucous membrane from the inside of the bowel, brings the serous surfaces in contact by Lembert's stitches and, if necessary, applies over these a continued suture of fine silk or catgut.

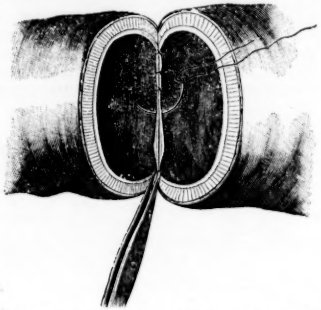


Fig. 39. Wölfler's suture. *a*, Deep sutures; *b*, superficial sutures.

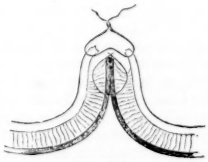
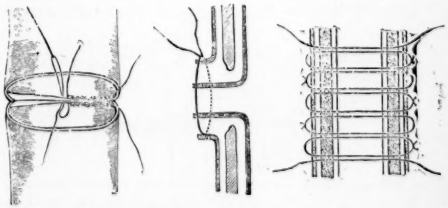


Fig. 39 *B*.

Madelung (Verh. d. Deutschen Gesellschaft f. Chirurgie, 1881) used in circular suturing small discs of cartilage made from the costal cartilage of a calf, with which he aimed to secure better approximation between the serous surfaces than by the unaided suture alone.

Bishop (*Medical Chronicle*, September, 1885) has devised and successfully employed in the lower animals an ingenious, and in his experimental work a satisfactory suture. It is a kind of interrupted shoemaker's stitch introduced on the mucous side, each suture loop being tied on alternate sides of the line of junction.



*a*. *b*. *c*.

Fig. 40. Bishop's suture.

The stitches are all on the mucous side of the bowel, and as they tend to produce too much narrowing of the bowel the method will never receive the sanction of the practical surgeon.

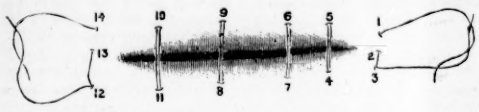
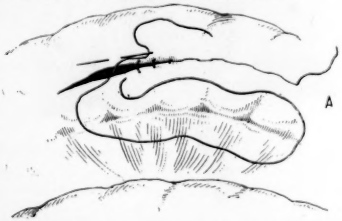



Fig. 41. Greig Smith's modification of Appolito's method.

Greig Smith's modification of Appolito's suture consists in doing away with the necessity of placing a foreign body in the intestines to which the end of the suture is attached. Smith credits this suture with giving wonderfully good apposition.




H. W. Cushing ("Right Angle" Continuous Intestinal Suture. Medical and Surgical Reports of the City Hospital of Boston, 1889) has still further modified Appolito's method, and has perfected it to such an extent that it has become one of the sutures that is entitled to general recognition. The first stitch is knotted as soon as a hold upon the bowel has been obtained, and the right angle stitches are now commenced. The thread is then carried to and fro across the wound, and is finally knotted at the opposite side of the wound. The author of the exceedingly interesting pamphlet from which these facts are gleaned says: "The most satisfactory results are obtained in the human intestine by placing the points of puncture one-eighth of an inch apart, and by burying the suture to the same extent in a direction parallel to, and three-sixteenths of an inch distant from the wound edge. The suture terminates in the tough, fibrous submucous layer, and is not intended to involve the mucous membrane or penetrate the intestinal cavity. Each part of the suture should be drawn tight, so as to accurately appose the wound edges before the next is set."

Halsted's (*International Journal of Medical Sciences*, October, 1887) plain quilt suture is a compromise between Emmert's and Cushing's suture.

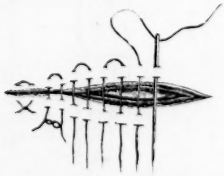


Fig. 43. Halsted's plain quilt suture.

He places great stress upon the importance of including in the sutures a few of the firm fibers of the submucous coat, which he has studied so carefully and described so well. He claims for this suture that it does not strangulate the tissues so much and obtains a firmer hold than the Lembert stitch. It is, however, a more time-consuming procedure than the ordinary method by Lembert stitches and more confusing to the inexpert surgeon. The mucous membrane has always been in the way of the surgeon in dealing with intestinal wounds. Moreau and Poutard excised the prolapsed mucous membrane before suturing, in order to prevent the interposition of this structure between the peritoneal surfaces and to secure a wider surface of healing. Kummer (*Verhandlungen d. Deutschen Gesellschaft für Chirurgie*, 1891, p. 121) has carried this procedure farther and under the name of submucous resection of the intestine, he describes a form of circular suturing in which a circular strip of the mucous membrane half an inch wide is excised on each side prior to bringing the parts in apposition by sutures.

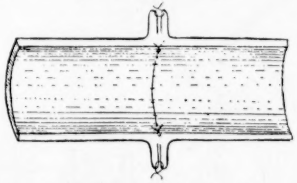


Fig. 44. Kummer's method of circular suturing.

The mucous membrane is sutured separately on the inner side of the bowel; the remaining part of the bowel wall appears in the form of a ridge, which after inversion of the peritoneal surfaces is sewed separately. The lumen of the bowel is not narrowed at the seat of suturing, and an extensive area of wound surface is included by the sutures. The method, however, is objectionable as it necessitates a maximum degree of traumatism and consumes too much valuable time.

Chaput ("Congres Francais de Chirurgie," 1889) does not excise the whole mucous membrane, as just described in Kummer's method, but removes only the epithelial lining by scraping. The mucous membrane is everted and a circular strip one centimetre wide on each side is denuded with a sharp curette. In sewing them together he brings in contact the scraped surfaces and covers the line of suturing with omentum. The invagination method, after scraping off the lower end in a similar manner, yielded such bad results in his experiments on dogs that it was never tried on man.

Robinson (*Annals of Surgery*, 1891) described a new method of end-to-end suturing. A rubber tube from four to six inches long is inserted into the proximal end and stitched around the edge. The mucous membrane of the distal end is dissected off with curved scissors and then curetted for about one-half inch. The proximal is then invaginated into the distal end, so that the peritoneal surface is in contact with denuded mucous membrane. A row of stitches around the circumference of the distal end, which, however does not penetrate the lumen of the proximal bowel, completes the operation.

M. E. Connell (*Medical Record*, September 17, 1892) has made some very interesting experimental investigations in circular enterorrhaphy with a special view of reducing the number of stitches and knots.

After a circular resection the cut ends of the bowel are placed in position represented by Fig. 45 *a*, and the first or tight suture is inserted, as shown by *b*. After tying this suture the parts will represent the appearance as in *c*. In making the second or loose suture, the needle is inserted from without inward through the wall of the bowel, at the convex end,

Fig. 45. Connell's suture for circular enterorrhaphy.

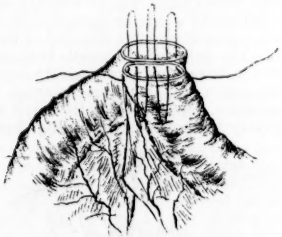


Fig. 45 *B*.

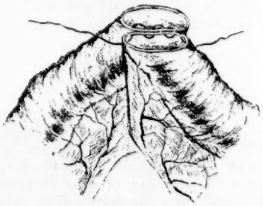


Fig. 45 *C*.

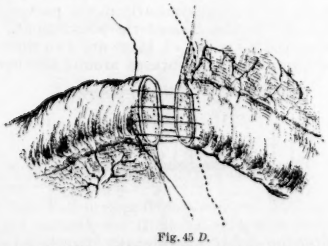


Fig. 45 *D*.

and passed out again on the same side; it is then crossed over the cut edges to the opposite wall, and a stitch is taken through all the coats about three-sixteenths of an inch in length, parallel with the margin of the cut edges; it is now passed back again and a stitch is taken as before. This is repeated until enough stitches have been taken when the needle is brought from within outward through the mesenteric end. When this suture has been inserted, and before it has been drawn tight, it appears as in *d*. When the suture is tightened the margins are inverted and the serous surfaces approximated.

Maunsell, of New Zealand, ("A New Method of Intestinal Surgery."—*American Journal Medical Sciences*, March, 1892), has devised a method of circular suturing in imitation of nature's processes in the spontaneous cure of an invagination.

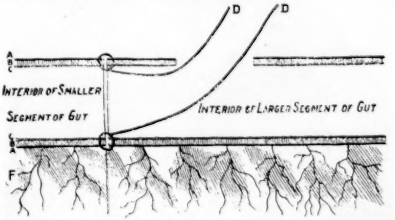



Fig. 46 *A*. Longitudinal section of gut showing AA, peritoneal coat. BB, muscular coat. CC, mucous coat. DD, temporary sutures passed into bowel and out through longitudinal slit made in larger segment of gut. F, mesentery.

The two ends of the bowel are brought together with two temporary sutures passed through *all* the coats of the intestine. The long ends of these sutures are left intact. One is placed at the mesenteric attachment, and the other at a point directly *vis à vis*. These sutures are used later in effecting invagination. On the side on which the temporary invagination is to be made the bowel is incised to the extent of an inch and a half, on the convex side parallel to its long axis, as is shown in Fig. 46 *a*.

The edges of the longitudinal slit made in the bowel, which begins about an inch from its cut end, should be well turned in and brought together with continued suture of Lembert's stitches. By this simple device, the perfect union by suture of a complete transverse section of the bowel, with its circumferential peritoneal surfaces in exact position and all knots of the sutures on the inside, can be accom-

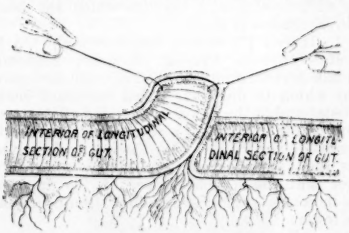



Fig. 46 *B*. Maunsell's artificial invagination and circular suturing.

plished. From diagram *b* (longitudinal section of intestine, showing the relative position of the different layers of the bowel invaginated at the longitudinal slit) it may be seen that the peritoneal surfaces are in accurate apposition all around. While an assistant holds the ends of the temporary sutures, the surgeon passes a long, fine, straight needle, armed

with a stout horse hair or a very fine silkworm gut through both sides of the bowel, taking a good hold of all the coats. The suture is then worked up from the center of the invaginated intestine, divided, and tied on both sides. *In this way twenty sutures can be placed rapidly in position with ten passages of the needle.* (See diagram *c.*) The temporary sutures

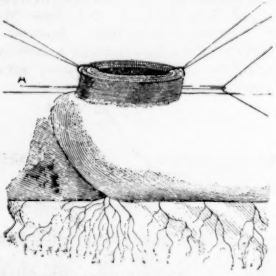


Diagram C. Invaginated gut, showing the two peritoneal surfaces in juxtaposition all around. A needle passed through both sides of the bowel, including all the coats, introducing two sutures with one passage of the needle.

are now cut off short, and the sutured ends of the bowel painted with Wölfler's mixture of alcohol, glycerin and colophonium, and dusted over with iodoform. The bowel is then pulled back. The longi-

Diagram D. Appearance of bowel after completion of operation.

tudinal slit in the gut is well turned in and closed with a continuous suture and painted with Wölfler's mixture and iodoform powder. This method of suturing has yielded excellent results in experiments on animals and recommends itself for a careful study to every surgeon. A serious objection to this method is the additional wound through which the temporary invagination is made.

M. L. Harris ("Circular Enterorrhaphy; A New Method."—*Chicago Medical Recorder*, September, 1892) has devised a new method of circular enterorrhaphy which in dogs has given excellent results. The distal end of the bowel is denuded of its mucous membrane for the distance of one and one-half to two centimetres with a sharp curette. The upper end is then invaginated into the lower in such a manner that the serous surface of the upper end comes in contact with the denuded submucous layer of the lower.

Three ordinary round sewing needles of a good length are threaded with fine sterilized silk. The first needle is made to transfix the thickness of the lower or denuded end of the bowel just to one side of the mesentery and at the inner limit of the denudation. It is not drawn clear through, but only until the point projects from the caliber of the bowel a little beyond its free edge. The point of the needle is made to pick up a bit of the other end of the bowel, transversely, just to one side of the mesentery and very near to its edge, Fig. 47.

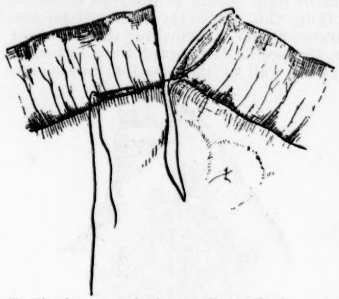


Fig. 47. Circular enterorrhaphy according to Harris. *a*, invagination suture.

Now, by drawing the needle back a little and using it as a lever by turning it around its point of transfixion in the lower end, it will be readily seen that the upper end, on this side, is invaginated into the lower end as far as the part is denuded of its mucous membrane. The point of the needle is then pushed on through the lower end from within outwards a short distance in a line transversely from the first point of entrance, where the needle is left temporarily, transfixing the bowel and holding that part of

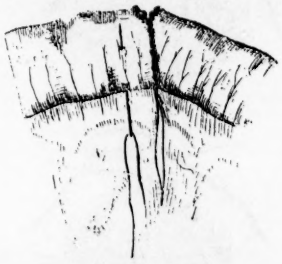


Fig. 47 *B*.

the upper end invaginated. Fig. 47, *b*. (b, partial invagination.) The same process is repeated with the second needle at a corresponding point of the bowel on the opposite side of the mesentery, while the third needle is used similarly at the part of the bowel opposite to the mesenteric attachment. As will be observed (Fig. 47, *c*), there are two rows (*c*, operation completed) of sutures around the bowel,

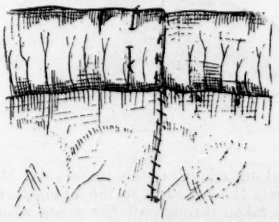


Fig. 47 *C*.

one at either end, thus permanently keeping the opposed surfaces in accurate contact regardless of the varying caliber of the bowel. It is the first row of sutures around the invaginated end to which the success of the method is due, and it was because Chaput failed to recognize it in his invagination method that his operation was a failure and every one of his animals died. Harris is of the opinion that it is not material in which direction the invagination is made when this method is employed. Although all of the animals operated on by this method lived and the specimens obtained later showed excellent results, I cannot but believe that any method which deviates from the principles established by Lembert is a step in the backward direction, and that few if any surgeons will have the courage to deviate from them when called upon to assume the responsibilities of such operations on his fellow-beings.

The tendency has recently been toward the employment of some kind of an aid or substitute for sutures in effecting an end-to-end union of the intestine. Senn ("Intestinal Surgery," Chicago, 1889, p. 168), has modified Jobert's method of invagination by substituting catgut for silk for the invagination sutures and by lining the upper end of the bowel with a flexible rubber ring. The operation is described as follows: "The upper end of the bowel which is to become the intussusceptum is lined with a soft pliable rubber ring made of a rubber band, transformed into a ring by fastening the ends together with two catgut sutures. This ring must be the length of the intussusceptum, from one-third to half an inch; the lower margin is stitched by a continuous catgut suture to the lower end of the bowel, which effectually prevents the bulging of the mucous membrane, a condition which is always difficult to overcome in circular suturing. After the ring is fastened in its place the end of the bowel presents a tapering appearance which materially facilitates the process of invagination.

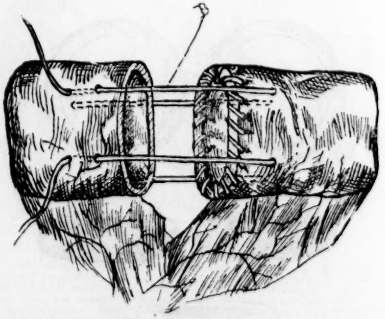


Fig. 48. Senn's modification of Jobert's invagination method. *a*, upper end lined with rin, invagination sutures in place; *b*, lower end; *c*, invagination completed, sutures tied.

"Two well prepared fine chromicized or juniper catgut sutures are threaded each with two needles. The needles are passed from within outwards, transfixing the upper portion of the rubber ring and the entire thickness of the wall of the bowel and always equidistant from each other; the first suture being passed in such a manner that each needle is brought out a short distance from the mesenteric attachment, and the second suture on the opposite convex side of the bowel. During this time an assistant keeps the opposite end of the bowel compressed to prevent contractions and bulging of the mucous membrane. The needles next are passed through the peritoneal, muscular and submucous coats at corresponding points about one-third of an inch from the margin of the opposite end of the bowel, and when all the needles have been passed an assistant makes equal traction on the four strings, and the operator assists the invagination by turning in the margin of the lower end evenly with a director

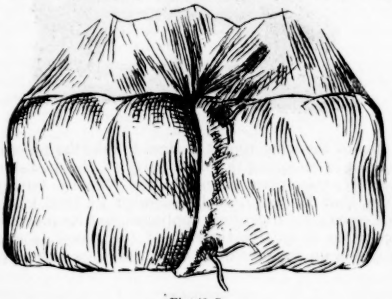


Fig. 48 *C*.

or probe, and by gently pushing the rubber ring completely into the intussuscipiens. The invagination is accurately made, the two catgut sutures are tied only with sufficient firmness to prevent disinvagination should violent peristalsis follow the operation. The invagination itself effects accurate, almost hermetical sealing of the visceral wound. The intestinal contents pass freely through the lumen of the rubber ring from above downwards, and extravasation from below is impossible, as the free end of the intussuscipiens secures accurate valvular closure. After a few days the rubber ring becomes detached, and by giving way of the catgut sutures is again transformed into a flat band, which readily passes off with the discharges through the bowels. The invagination sutures of catgut are gradually removed by substitution on the part of the tissues, hence the punctures in the bowels remain closed either by the catgut or by the products of local tissue proliferation; and thus extravasation is prevented."

Neuber used a hollow cylinder of decalcified bone with a deep groove in the center as an aid in circular enterorrhaphy. (Fig. 49, *a*.)

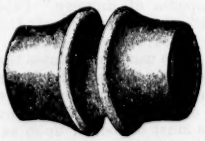


Fig. 49. Neuber's method. *a*, hollow cylinder of decalcified bone; *b*, longitudinal defect in bowel, showing location of cylinder, sutures, and catgut ligature.

After suturing the mucous membrane according to Wölfler's method so far that only an opening is left large enough to insert the cylinder, this is introduced in such a way that the transverse groove cor-

responds with the line of suturing when the serous surfaces are brought in contact by Lembert sutures. In order to fasten the united bowel securely upon the bone tube, a catgut thread is passed with a round needle through the mesentery, and tied around the bowel with sufficient firmness to press the margins of the sutured ends of the bowel into the groove. (Fig. 49, *b*.) This method has been employed in a number of cases with good results.

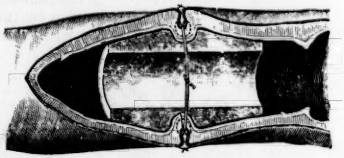


Fig. 49 *B*.

One of the most recent devices to take the place of sutures in restoring the continuity of the bowel in complete transverse wounds is the Murphy button. (*New York Medical Record*, December 10, 1892.) It is an exceedingly ingenious appliance, but its mechanism as far as uniting the ends of the bowel is concerned is no improvement upon the rings employed

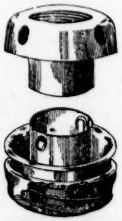


Fig. 50. Murphy's button.

by Denans more than half a century ago. In both methods the margins of each end of the bowel are compressed and strangulated by the instrument with the intention of causing gangrene, and the resulting union is accomplished by adhesions between the serous surfaces outside of the grasp of the instrument. Both methods have also this in common, that a large foreign body is left in the intestinal canal which may become a source of danger on its way to the distal end of the alimentary canal. There is substantial ground for the two pertinent questions propounded by Henry Morris ("International Encyclopedia of Surgery," 1884, p. 944) in commenting on the procedure of Denans: "Who would venture to leave the intestine in this manner in the belly? Who would guarantee that the metallic tubes would not perforate the intestine?" Any instrument, suture or ligature used in effecting the continuity of a wounded or divided bowel that produces gangrene must be looked upon as a source of danger. It is impossible to effect an aseptic necrosis in the interior of the bowel, and dead tissue inhabited by pathogenic microbes always constitutes a source of danger. It is easy enough to produce gangrene, but we are powerless in limiting its extension in this locality. The limited area of living tissue brought in contact outside of the rings of Denans or the Murphy button will not always prove adequate in the protection of the peritoneal cavity against perforation and its immediate result—septic peritonitis. I have knowledge of a number of cases in which the parts approximated by the Murphy button were found completely separated at the post-mortem examination. As a means of end-to-end union of the intestine, the Murphy button is certainly inferior to Denans' procedure or the method that will be next alluded to, because the lumen of the connecting part is not large enough as a temporary outlet for the intestinal contents above the seat of operation. The size of the button is also a very serious objection. I have operated for intestinal obstruction produced by a gallstone less than an inch in diameter which had become impacted in the lower end of the ileum, and other surgeons will recall similar instances. Keen (*Annals of Surgery*, June, 1893) gives the post-mortem record of a case of malignant disease of the colon in which an anastomosis was established by using a Murphy button one inch in diameter. The patient survived the operation forty-seven days. The anastomotic opening had become reduced one-half in size by contraction during this time. In a postscript he says: "The button should be abandoned for intestinal or gastro-intestinal anastomosis."

If this warning of so eminent a surgeon foreshadows the final verdict of the profession in regard to the use of the button for anastomotic purposes it will never come into use in end-to-end approximation.

A few days ago I received an interesting brochure from Adelbert Ramaugé, professor of surgery in the medical faculty of Buenos Ayres, entitled "Enteroplexie," a paper which he read at a meeting of the International Medical Congress of South America, January 20, 1893, and which received the first prize, a gold medal, from the Peruvian government. In this paper I find the description of an instrument which is intended for the same purpose as the Murphy button and which bears a strong resemblance to it.

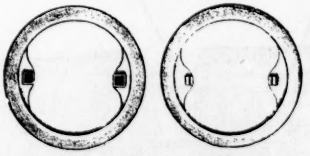


Fig. 51 *A*.

Fig. 51 *B*.

Fig. 51 *C*.

Fig. 51 *A*. Ramaugé's method of end-to-end approximation. *a*, platinum rings, front view; *b*, platinum rings, side view, showing male and female connecting parts; *c*, rings joined together; *d*, longitudinal section of bowel, showing position of rings and included parts.

Its mechanism as far as the end-to-end approximation is concerned is the same as that of the button.

The rings are made of aluminium. The connection between the rings is made by two instead of one part. This is a decided advantage, as the size of the temporary outlet is thereby increased. As the rings are composed of aluminium, they are much lighter than the button, and for this reason less likely to

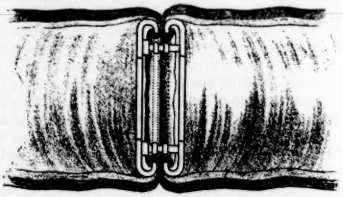


Fig. 51 *D*.

become arrested on their way through the intestinal canal. The objections which have been made against Denans' rings and the Murphy button otherwise apply with equal force to this procedure.

The revival of intestinal anastomosis by Billroth and Senn has opened up a new field for experimentation with different kinds of sutures and their substitutes. The author ("Intestinal Surgery," Chicago, 1889) made many operations on dogs by suturing the two visceral wounds which were intended to form the anastomotic opening by the Czerny-Lembert method, and notwithstanding that the greatest care was exercised in carrying into effect the antiseptic details, and with a view of a perfect technique, nearly 50 per cent. of the animals died, either from the immediate effects of the operation or from complications resulting from the operation. For the purpose of gaining time and doing away with the evil accruing from too many sutures, and finally with the intention of securing a greater surface of approximation of the serous surfaces and complete rest for the parts it is

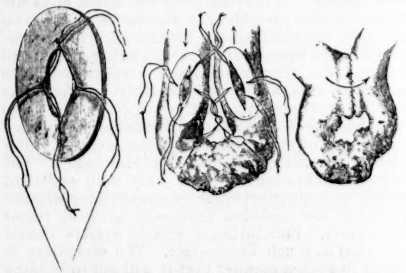


Fig. 52. Senn's method of performing intestinal anastomosis. *a*, perforated decalcified bone plate with sutures attached; *b*, plates inserted through longitudinal slit in bowel on each side of obstruction, lateral ligatures passed through margin of wound on each side; *c*, the four approximation sutures tied, cut short to the knot, and serous surface over margins of plates sewed together with continued suture.

intended to unite, he substituted for the sutures approximation plates. The idea was suggested to him by Dr. M. E. Connell, superintendent of the Milwaukee County Hospital. The first experiments were made with plates of wood, lead, gutta percha and other indestructible substances, nevertheless nearly all of the animals recovered. The material for the plates that was found the most useful after many trials was decalcified bone. The appearance of the plates and their method of use in making an intestinal anastomosis are well shown in the accompanying illustration taken from the last edition of Esmarch's "Chirurgische Technik."

The serous surfaces included between the plates are scarified for the purpose of securing early and firm adhesions. The plates furnish the necessary mechanical support until firm adhesions have formed when they disintegrate and pass away in fragments. The two lateral sutures fall into the lumen of the bowel. The mistake was first made in operations on man in making the perforation in the plate and the longitudinal wound in the bowel too short, hence the anastomotic opening was too small from the beginning. For gastro-enterostomy and intestinal anastomosis, I now use moist plates (kept between glass plates in an antiseptic solution) with a perforation at least three inches in length and make the visceral wounds correspondingly long. Since I have adopted this change, I have had no trouble with the anastomotic opening. Different kinds of material have been substituted for the decalcified bone. Abbe and Matas used catgut rings, Brokaw segmented rubber ring, Robinson rawhide and segmented rubber plates, Davis catgut mats, Stamm cartilage plate, Shrively and Simonson chromicized gelatin plates, Dawbarn potato plate, von Baracz Swedish turnip plate, and a French surgeon has recently proposed plates made from shavings of the hoofs of horses. H. Littlewood (*The Lancet*, April 16, 1892) has suggested a modification of Senn's plates, with the idea of doing away with the four stitches attached to the upper and lower margins of the apertures of the plates, of performing the operation more quickly and of ensuring a good opening between the two pieces of the intestine.

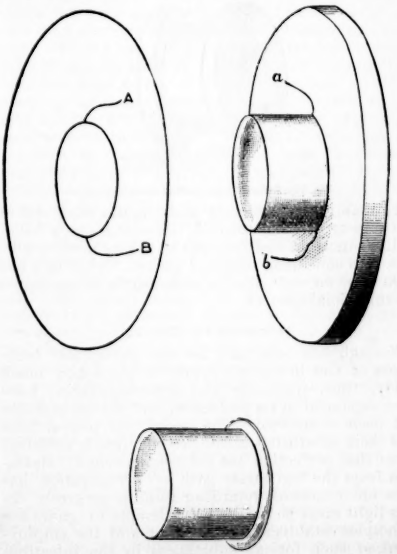



Fig. 53. Intestinal anastomosis after Littlewood. *a*, decalcified bone plate, central opening for connecting tube; *b*, decalcified bone plate with connecting tube inserted; *c*, connecting cylinder.

The suggested modification is to fix a tube of decalcified bone (*c*) into the aperture of one of the plates (*b*). This should be made to accurately fit into the aperture of the other (*a*); by this method the two plates could be held together, and the two parts of the intestinal walls between them brought evenly into contact with each other. He suggests that it might be well to have a piece of fine silk attached to each of the ends of apertures (as marked *A a*, *B b*, in diagrams *a* and *b*), so that by tying *A a* and *B b* together greater security would be made. The intestinal walls around the margins of the plates should be attached by a few sutures.

Willy Sachs (*Centralblatt f. Chirurgie*, October 4, 1890) has described a very similar modification. He proposes the use of an appliance resembling in form a sleeve stud, perforated in the middle. This is made up of two decalcified bone plates fixed together, yet separated to a small extent from each other as far as the uniting portion immediately around the central portion. A longitudinal incision having been made in each of the opposed portions of intestine, each disc is inserted into the intestinal canal on either side, and the intestinal anastomosis is thus readily and speedily established. Sutures are then applied through the serous coat on each side wherever there is a tendency to protrusion of the mucous membrane. He tested this method so far only on rabbits.

A. W. Mayo Robson ("A Method of Performing Intestinal Anastomosis by Means of Decalcified Bone Bobbins."—*British Medical Journal*, April, 1893), uses a contrivance very similar to that of Sachs' which he calls decalcified bone bobbin. He has used this method with success in two cases.

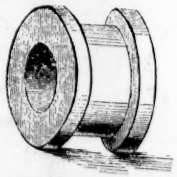


Fig. 54. Robson's decalcified bone bobbin.

In making an intestinal anastomosis, each end of the tube is inserted into the bowel through a longitudinal incision and fastened to the connecting portion by a continued marginal suture. After this has been done on each side the serous surfaces are united by superficial sutures.

### IV—PRESENT STATUS.

Enough has been said on the history and technique of the intestinal suture to show how much study, time, ingenuity and experimentation have been expended in its perfection, and yet the task has not been completed. The search for new sutures and their substitutes at the present time is sufficient proof that perfection has not been reached. Deviation from the legitimate path of investigation has done much towards retarding genuine progress. In this light must be viewed all attempts to ignore the principles established by Lembert and the employment of such foreign substances in the intestinal canal as means of approximation that necessarily produce gangrene, and of sufficient size to constitute an intrinsic source of danger. In the treatment of longitudinal and incomplete transverse wounds suturing by Czerny-Lembert sutures yields the best results. If time is an important factor a single row of Lembert stitches will answer the purpose. About six sutures to the inch are required. Halsted's advice to include in the stitches fibers of the firm submucous coat is important and should never be ignored. As a rule the line of suturing should be transversely to the long axis of the bowel in order not to encroach too much upon its lumen. Fine aseptic silk and ordinary sewing needles are to be employed. The inner row of sutures must include all tunics of the bowel with the exception of the peritoneum; the outer all of the tunics minus the mucous membrane. The inner sutures ulcerate through into the bowel, the outer become encysted. Interrupted sutures are safer than the continuous, but in prolonged operations and when the patient is feeble, the latter can be substituted for the former as a time saving measure. Extravasation during the operation is best prevented by digital or elastic compression on each side of the wound. The latter is made by passing a piece of fine aseptic rubber tubing through an opening in the mesentery made with a piece of hemostatic forceps, and tied around the bowel sufficiently firm to prevent escape of its contents.

If the bowel is completely divided its continuity can be restored with the greatest degree of safety by circular enterorrhaphy or invagination by the author's method. The latter is not applicable in operations for intestinal obstruction, as in that case the upper end of the bowel is larger than the lower into which the invagination must be made. Before suturing is commenced each end of the bowel should be beveled at the expense of the convex side, as advised by Madelung many years ago, as by doing so there is less danger of the sutures causing a dangerous degree of stenosis and the liability to marginal gangrene on the convex side is also greatly diminished thereby. If the lumina of the bowel ends are unequal in size, the obliquity should be greatest on the side of the small end. Circular suturing is performed in the same manner as suturing of incomplete wounds. The greatest care is required on the mesenteric side, as it is here where perforations occur most frequently. After applying the deep row of sutures the first Lembert stitches are applied on each side of the mesenteric attachment in order to secure serous approximation in this locality. The Lembert stitches must be tied only with sufficient firmness to approximate the serous surfaces without subjecting the included tissues to harmful linear compression. Puncturing of visible vessels should be avoided as much as possible. The mesentery is sutured in such a manner that it will aid in holding together the sutured end. Senn ("Intestinal Surgery," Chicago, 1889) has proposed and practiced omental grafting as a valuable aid in circular suturing. This additional protection against perforation and peritonitis is especially indicated when the tissues at the place of suturing have undergone pathological changes in consequence of intestinal obstruction or inflammation. A strip of omentum about an inch wide and long enough to cover the entire circumference of the bowel is used for this purpose. Prior to planting the graft the serous surface of the bowel half an inch from the line of sutures on each side is scarified, and the under surface of the graft is dealt

with in the same way. The graft is fastened by two catgut sutures on the mesenteric side, including the mesentery and both ends of the graft. The stitches are made parallel to the mesenteric vessels. The grafts become firmly adherent within a few hours, and in the course of one or two days are vascularized by new vessels growing into them from the scarified surface of the bowel. If any internal aids to circular suturing are used they should be composed of absorbable material and employed in such a way as not to produce marginal gangrene, and with a central opening large enough to allow free fecal circulation. I cannot but regard mechanical supports made of metallic substances as dangerous. The objections made to them do not apply with equal force to the decalcified bone tube of Neuber, the sleeve button of the same material, of Sachs and Littlewood, and the bobbins of decalcified bone of Robson. These appliances merit a trial and will undoubtedly be improved upon in the future.

Lateral anastomosis as a surgical procedure has a great future. I still remain partial to the use of decalcified bone plates as a substitute in part for sutures. Abbe has discarded the use of his catgut ring and now advocates long incisions and suturing. If the plates are made with an oval perforation three inches in length the same object is realized in a much shorter time and with a greater degree of safety. I never had any faith in rings as a means of approximation. The plates bring into accurate contact large serous surfaces and serve at the same time as splints for the injured part. They serve the double purpose of sutures and splints. The other appliances of decalcified bone that have been enumerated may answer the same purpose as the anastomosis plates, but with none of them can the pressure to which the included margins of the visceral wounds are subjected be regulated with the same degree of certainty, and none of them approach so near the function of splints. I have no doubt that future experiments will result in the discovery of other and safer appliances that will be vastly superior to anything I have mentioned, and that if they do not abolish, will at least greatly limit the present field of the intestinal suture.

## ORIGINAL ARTICLES.

### A CASE OF CHRONIC GLANDERS, WITH RECOVERY.

Read before the Section on Surgery and Anatomy at the Forty-fourth Annual Meeting of the American Medical Association.

BY BAYARD HOLMES, B.S., M.D.

CHICAGO, ILL.

ABSTRACT.

This paper begins by showing that the bacillus maleus is the prime etiological factor in glanders;

That glanders is allied to the chronic infectious diseases, and its normal host probably one of the domestic animals;

That the bacillus is an obligate parasite of its host;

That it resembles morphologically the other bacterial parasites that produce chronic infectious diseases in man, especially tuberculosis and leprosy;

That the occurrence of glanders in man is rare, and that it presents itself in two forms: one acute and rapidly fatal, terminating as a rule inside of two or three months at the farthest; the other chronic, from which the patient may recover after one, two, four or five years of disease;

That the occurrence of glanders is usually due to the association of man with domestic animals, or persons suffering from the disease.

CASE.

The case which I have to present was referred to me in April, 1889, by Dr. Holdsburg, of Granville, La Salle county, Illinois, with the following history: The patient, Charles Mason, was a well-developed young man twenty-two years old. He had always been well and strong and had lived on a farm all his life. He worked on the farm all the time, except when in school, since old enough to be useful. In December, 1889, one of his horses was taken sick, became stiff and lame, had "running from the nose" and loss of breath, and died at the end of a week. The mate to this horse became sick and had several sores, which the patient dressed and took care of during the month of December. Sometime during the middle of December the left finger became sore and was treated by Dr. Holdsburg, who pronounced it a felon. It was very painful, but there was no adenitis or lymphangitis, and no rise of temperature or chill. Before the felon was entirely healed five foci appeared in five different parts of the body—one at the elbow, one at the vertex, and one on the right side of the lower maxilla, one in the right thigh and one in the right calf. Three of these foci were open when I first saw him. The one on the lower maxilla and the one in the calf were still unopened. These foci appeared almost simultaneously about the first of January, 1889, and within three weeks after the beginning of the so-called felon. They each began with a sharp stinging pain, much like a bee sting, with deep swelling and little or no œdema and redness. When I saw the patient first the temperature was 100 and the pulse 92. The history showed that there had been no rise of temperature, and no other symptom of acute sepsis during the three and a half months from the beginning of the explosion, the first week in January, to my first observation on the 12th of April. The patient was then somewhat reduced in weight, but not emaciated. He was walking on crutches; the right leg was flexed on account of the swelling below the soleus. The skin over the focus on the right maxilla was thinning from pressure atrophy, but there was no œdema or redness such as is found about staphylococcus abscesses. The same observation was made on the calf. The open abscesses on the elbow, the vertex and the thigh, presented somewhat the appearance of tubercular abscesses, but with this difference: the abscess wall was covered with a firm, hard, almost shot-like, bright red granulation, and the exuding secretion was sanguinolent. The diagnosis of a suppurative disease was excluded by the absence of œdema and redness, of proximal adenitis and by the persistent absence of chills and rises of temperature. The possibility of tuberculosis was considered and the diagnosis rested between glanders and tubercular infection, with a strong preponderance in favor of glanders, both on account of the atypical appearance of the granulations and the history of the case. The indication seemed to be for immediate and vigorous operative interference.

Having provided myself with the assistance of Dr.

Frank S. Billings, D. V. S., who was well acquainted with glanders in domestic animals, operation was undertaken under the strictest antiseptic precautions—first to secure from the unopened focus in the leg uncontaminated pus for inoculation in guinea pigs for diagnostic purposes, and second, to mechanically remove the infected tissues. After opening the skin with the cautery a small amount of pus was taken up as it welled into the cautery wound and immediately inoculated into two guinea pigs and three rabbits. These animals were isolated and the two guinea pigs developed the typical orchitis, and the two rabbits died between three and four days after the inoculation of glanders septicemia. The *evidement* of the focus was completed through a larger cautery wound which opened the infected area from an inch and a half below the popliteal space the lower third of the tibia. It was impossible to say exactly where the infection lay, but it seemed to be in the fascia separating the bundles of the soleus and gastrocnemius. After *evidement* with the sharp spoon, the cavity was swabbed out with a saturated solution of zinc sulphate. It was then packed with iodoform gauze, wet in a saturated solution of iodid of potassium. The other foci were treated in the same way, with this addition: that those foci connected with the bones, three in number, had the *evidement* or chiseling extended to the removal of the bone sequestrum and the immediately adjoining healthy bone. Five operations were performed during the first anæsthesia.

There was never any rise of temperature and little inconvenience to the patient from these operations. The wounds healed with exceeding slowness and usually required from three to six *evidements*, though the one in the jaw which was operated upon under the most favorable circumstances healed during the week following the first operation.

The patient became so well acquainted with the symptoms of the localization of the infection that he would call my attention to a spot in which he had felt the characteristic sting and subsequent pain. I marked these points with ink and after anæsthetizing the patient, cut down upon them and either removed them as I would a tumor, or cauterized the focus extensively with the actual cautery and treated it by the open method. In this way during two years and a half, the patient was anæsthetized twenty times, and new foci were opened or old ones scraped out. Only one case of adenitis was observed and this was treated by excision. The number of foci was *fourteen*, namely:

1. The primary focus on the left middle finger.
2. The right thigh.
3. The front of the tibia.
4. The right forearm.
5. The right lower maxilla.
6. The vertex.
7. The right groin, an adenitis.
8. The right popliteal space.
9. The right gluteal region.
10. The left gluteal region.
11. The left calf.
12. The right calf.
13. The recurrence in right tibia.
14. The front of the right thigh.

It seems to me that this case is worthy to be reported because the history is good, the diagnosis was confirmed by inoculation experiment, and recovery has followed rational and persistent surgical procedure. An additional interest is to be taken in the case because of its rareness, and because it was difficult at first to say that it was not tubercular explosion.

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## AN ORIGINAL METHOD OF RESTORING THE ALVEOLAR ARCH IN ANTERIOR CLEFT OF THE HARD PALATE AND OF CORRECTING THE DEFORMITY OF THE ALA NASI IN HARE-LIP.

Read in the Section of Surgery and Anatomy, at the Forty-fourth Annual Meeting of the American Medical Association.

BY JOHN A. WYETH, M.D.
NEW YORK.

The operation I desire to submit to your consideration is intended more perfectly to correct the deformity of the lip, and more particularly of the nose, in anterior cleft of the palate and alveolar arch.

It is a common experience that after plastic work on the soft parts in cases of complete hare-lip and cleft palate, which brings the lip into satisfactory position, the *ala nasi* of the affected side still remains misshapen, flat and sunken. The *ala nasi* rests normally upon the nasal margins of the superior maxilla.

If the maxillæ are normal, and the alveolar arch in front complete, each *ala nasi* rests upon a bony surface and foundation on the same plane, and the two are naturally symmetrical. If one is deficient, the nostril of that side sinks down and out of line just as the corner of a house sags when the underpinning is not high enough. The operation of *advancement of the anterior portion of the upper jaw on the short side* is designed to build up the foundation.

In certain cases of anterior cleft the inter-maxillary process is adherent to one side (the long side), and projects in a clumsy fashion usually to the front and upwards. In these cases the old method of bending or forcing this misplaced process over to the short side and holding it in contact until union is secured, completes the arch and gives a suitable foundation for successful plastic work on the nostril and lip.

When, however, the inter-maxillary process is absent or largely deficient we find one *ala nasi* resting upon a normal portion of the alveolar arch on one side, while on the other it recedes from one-half to one-quarter inch, resting upon the imperfect maxilla and alveolar process. In four such cases I have devised and carried out successfully the following procedure:

About one-quarter inch from the edges which are to be brought into apposition, a hole is drilled through the bone and a strong silver wire carried through, ready for being tightened. The edges are now freshened by slicing off the mucous membrane lining the bone with a strong scalpel or scissors. With a strong pair of straight scissors in very young infants, or a bone cutter the alveolar arch and maxilla of the short side is divided about half way of its length and at a right angle to the dental surface. By introducing a very strong cord of silk or wire into this fissure, and making strong traction forward on this, the undivided portion is fractured and the loos-

ened part, by tightening the silver suture previously introduced, is brought forward, where it is firmly anchored by twisting the wire.

Since the nutrition of the bone in its new position is derived temporarily from the adherent soft parts, these are not disturbed until the bone unites in the new position. From six to eight weeks should elapse before plastic work on the lip and nose is undertaken.

By advancing the bone in this manner, the anterior segment of the alveolar arch is completed and the *alæ nasi* of the two sides rest on the same plane.

Of course the plastic work on the lip and nose must be skillfully done, but the principles here are well established and well known, and it would not become me to take more of your time with these. It is, however, well enough to dwell on the importance of early operations, always within the first years of life, and preferably within the first early weeks after birth, provided that *the nutrition of the patient is good or can be improved by forced feeding;* then, as soon as the patient is sufficiently improved.

When these cases are left to the sixth or twelfth year the muscles of the *ala nasi* on the short side are partly paralyzed from disuse, and the nostril can scarcely be made to look as well as its fellow.

## A NEW METHOD FOR THE RADICAL CURE OF VARICOSE VEINS.

Read in the Section of Surgery and Anatomy, at the Forty-fourth Annual Meeting of the American Medical Association.

BY ERNEST LA PLACE, A.M., M.D.

PROFESSOR OF SURGERY, PATHOLOGY AND CLINICAL SURGERY IN THE MEDICO-CHIRURGICAL COLLEGE AND HOSPITAL; SURGEON TO THE PHILADELPHIA HOSPITAL; SURGEON AND PATHOLOGIST TO ST. AGNES HOSPITAL, PHILADELPHIA.

Varicose veins of the lower extremities are among the most persistent and tormenting afflictions of adult age, not only because of our comparative ignorance of the absolute causes of the condition in the majority of cases, but especially because in the few cases where the cause can be clearly made out, it is almost a matter of impossibility to remove it. Varicose veins are produced either by an increased blood pressure within the veins, or by a diminished resistance of the vessel walls, or both. Whatever be the special cause, the eventual result is nearly always the same—a permanent state of dilatation and consequent thinning out of the walls of the veins on account of the sluggish circulation and increased blood pressure. We know how this condition reaches its climax in a rupture of the vein, giving a serious hemorrhage on the one hand, or if the affected vessels be capillaries, the varicose ulcer is the result. It would be useless to go farther into the pathology of the condition than saying that the initial stage of the trouble is a trophic disturbance, sometimes hereditary and sometimes acquired. The vessels being practically in an aneurismal condition, the question underlying the rapid and effectual cure resolves itself into the principle of cure of an aneurism. This we know to be beyond discussion; the complete obliteration of the dilated blood vessel by mechanical means, by chemical means, or physical means, or two or more of these combined. Inasmuch as varicose veins are not only dilated but lengthened and thrown into loops and curves, the aneurismal tumors which result offer a very extensive area for the application of the various methods of obtaining the obliteration of the veins. The walls become immensely thickened because of the migration of white blood corpuscles that have subsequently built fibrous tissue, so that there is no tendency for these vessels to contract; the skin has become irritated and eczematous, and at last the whole limb becomes more or less affected.

Of the various forms of palliative treatment we will say but little, as this appeals directly to our common sense and might be consistently adopted as an accompaniment of whatever form of radical treatment is used. All, however, consist in prescribing rest and some form of external support.

Of the radical means, the choice lies between acupressure, ligature and excision.

In *Acupressure* a flat needle is passed under the vein and a figure-of-eight thread is applied over the ends. This is done at short intervals, hoping to obliterate by coagulation the intervening section of vein. This procedure is tedious, complicated, very seldom accompanied by success, and exposes the limb to dangers of sepsis and embolism.

*The Ligature* is made by a small incision over the vessel and an aneurism needle passed around it threaded with catgut. This is done above and below the varicose spot and the ligature cut short.

*Excision.*—Excision is done in practically the same way. The vein is carefully dissected out, and being ligated above and below, the intervening portion is excised. Where any great length of vein is involved this is of course impracticable.

Molliere (211, March 30, 1890), employs a solution of 1 part of iodin, 9 of tannin and 200 of water, of which he injects a few drops directly into the veins with a view of producing coagulation. Ricard (100, Oct. 30, 1890). Phelps also advocates the multiple ligature of varicose veins being, however, fully aware of the strictly local effect, and of the recurrence of the condition. Goodwin (2, Oct. 5, 1889), advocates the injection of ½ minim of carbolic acid into varicose veins, an Esmarch tube having first been applied above. Patterson (2, Sept. 25, 1890) after placing harelip pins, injects perchloride of iron. All of these methods are painful, tedious and so strictly limited in their application that complete relief would necessitate the same procedure over the whole area of dilatation, which would overtax the endurance of a patient.

Recognizing the deficiencies of these modes of treatment, we proceeded to treat the condition in a manner that would remedy it at once. The two great channels that drain the superficial venous circulation of the leg are the internal or long saphena and external or short saphena veins. These and their tributaries are the vessels affected in the varicose condition. The lack of support, or any other cause act simultaneously upon every branch of the vein. The long saphena vein commences in a minute plexus on the dorsum of the foot: it ascends in front of the inner ankle and inner side of the leg, behind the inner margin of the tibia. It drains all the anterior surface of the leg and the whole circumference of the thigh.

The external or short saphenous vein drains the posterior portion of the leg and empties into the popliteal vein between the two heads of the gastrocnemius muscle. This being the case it occurred to me that if obliteration of the varicose veins was the essential factor in the cure, it might be possible to

obliterate all the surface venous circulation by ligating the long saphenous vein at the saphenous opening and the short saphenous vein between the heads of the gastrocnemius. Blood stasis must necessarily follow and a certain amount of œdema. Elevation of the limb, and gentle compression with raw cotton and a flannel bandage soon overcomes this. Rest in bed adds the final requirement to what seemed to me *a priori* the ideal mode of obtaining a wholesale obliteration of all the varicose veins of a limb, hence the cure.

The first case operated upon was a very stout gentleman 54 years of age, who sustained a fracture of the left leg while in the army, and soon afterwards developed varicose veins in both legs accompanied by a varicose ulcer in the left leg. For twenty years this condition had existed and on the 12th of October, 1891, cocaine having been injected about the saphenous openings in both thighs the long saphenous vein was ligated. The vein can be found very easily, immediately under the integument and superficial fascia, one and one-half inches below Ponpart's ligament and one and one-half inches from the inner side of the thigh. The vessel is isolated and a silk or catgut ligature applied. The incision need not be more than one inch in length. A suture closes the wound, and it is finally sealed with a film of cotton and iodoform and collodion. The same operation was performed upon the short saphenous vein by making an oblique incision about two inches below the center of the popliteal space. The vein is generally distended and presents itself in the area that is thus exposed. These two veins were then ligated after the above fashion in our patient. There was immediately a hardened and distended condition of all the varicosed veins, which were quite tortuous. A snug cotton compress and bandage was applied from the leg to the upper femoral region and the limbs slightly elevated upon pillows. The operation was not accompanied by pain and at no time subsequently but a sense of *tightness*, as he expressed it, all over the limb. On the third day the bandage was removed to observe the changes. The veins stood out plainly with a hard nodular appearance, easily comparable to a rope under the skin. All about them was a yellowish green coloration much resembling what occurs in an ecchymosis which is being absorbed; and which no doubt was due to some red blood corpuscles that had exuded through the distended stomata of the veins and which on disintegrating left their hemutin in the tissues. In two weeks the patient was allowed to rise. The dressing had been renewed every three or four days, and no change or symptoms could be observed except a gradual hardening of the veins and simultaneous diminution of their size. At the end of the second week the patient felt quite relieved and walked about with comfort. The small ulcer on the left leg healed very kindly, after being curetted and covered with iodoform gauze. Since then, this patient has been engaged in superintending a coal mine near Scranton, Pa., and has lately written me that he feels perfectly well.

Of the sixteen other cases which it has been my privilege to treat, six had the operation performed on both limbs in immediate succession and ten on one limb only. Five were women and eleven were men. Whether the varicose condition was small or extensive the same operation was performed in each case, and each time anæsthesia was obtained with a 4 per cent. solution of cocaine. The progress of each case was remarkable and constant, *except one*, presenting an almost identical course with the first case related. At no time was there any elevation of temperature. Eight of these cases were operated upon before my class in the Medico-Chirurgical College of Philadelphia, six at the clinics of the Philadelphia Hospital and five in private practice. Of those operated upon in the Philadelphia Hospital the one exceptional case mentioned above deserves special description:

The patient was about 45 years of age, a blacksmith. Having performed the operation several times before the class, I proceeded to operate upon this patient without further remarks and, making the usual incision, I failed to find the saphenous vein. The varicose condition was entirely limited to the right leg. I sought a long while for the saphenous vein without success, and was compelled to abandon the treatment of this case by this method, having concluded that there must have been an anomaly in the course of this vessel.

Of the sixteen patients successfully treated, I am in the position of hearing now and then from but seven of them, and last week they were still satisfied with their condition.

If these results are maintained indefinitely, and there seems to me no pathological or anatomical reason why they should not, we think that this is a distinct advance over the other method of treating this painful condition—methods which do not deal with the whole condition at once but are applied more directly to such portions of the veins as are distinctly varicosed.

The advantages claimed for this method therefore are, first, it deals with the cases of varicose veins at wholesale; second, the operation if *aseptic*, is harmless, easy, and with the help of cocaine, painless; third, it achieves that principle which we know underlies the cure of all aneurismal or varicose conditions, viz: an ultimate obliteration of the impaired blood vessel. This is reached by coagulation of blood and gradual absorption of the coagulum, while sufficient white blood corpuscles have exuded during the period of distension to subsequently build fibrous tissue which will contract upon the obliterated vein; fourth, until now we are not aware of any relapse; fifth, a cure seems apparent in from two to three weeks.

DR. WYETH of New York—This seems to me an operation of considerable merit. But it has occurred to me that the writer neglected to call attention to the dangers of mistakes in diagnosis, as we well know this condition is often due to a compensation after obliteration of the femoral or popliteal. If in such a case we were to ligate the long saphenous, gangrene would be produced. I think it well to call attention to that point.

DR. LA PLACE—I thank Dr. Wyeth for his suggestion. Of course we wouldn't operate until we had decided the positive nature of the case. The surgeon is supposed to have previously studied the case and to have established the rationale of the treatment.

**The Charitable Japanese.**—Out in Japan the doctor never thinks of asking poor patients for a fee. A proverb among the medical fraternity of Japan reads: "When the twin enemies poverty and disease invade a home he who takes aught from that home, even though it be given to him, is a robber."

## THE TREATMENT OF BLENNORRHŒA NEONATORUM.

Read before the Illinois State Medical Society, May, 1893.

BY BOERNE BETTMAN, M.D.

Professor of Ophthalmology in the Chicago Post-Graduate Medical School; Oculist and Aurist to the Michael Reese and German Hospitals; Attending Surgeon to the Illinois Charity Eye and Ear Infirmary; Professor of Ophthalmology and Otology in the College of Physicians and Surgeons, Chicago.

When we consider that from 20 to 40 per cent. of our blind must attribute their affliction to blennorrhœa neonatorum, we are forced to admit one of two things: Either the treatment is not understood or it is not intelligently carried out by a great number of physicians.

Our medical journals during the last decade teem with articles devoted to curative and prophylactic measures of this disease.

Every physician at this date has been sufficiently impressed with the importance of employing preventive treatment and of the gravity of blennorrhœa neonatorum.

Notwithstanding these long continued and oft repeated instructions as to the method of treatment, numerous children are still deprived of their vision. Many cases of blennorrhœa are lost.

I have lately seen, in consultation at my office, about a dozen babies where one or both corneæ were destroyed when brought to my notice.

An analysis of these and numerous other cases sent to me by physicians have convinced me that the majority of practitioners and a number of oculists are yet unacquainted with the therapeutic measures in force. Many of my colleagues had followed as they informed me, either in person or by letter, the instructions as laid down in various textbooks devoted to this subject.

The routine treatment where any was attempted was the following: Frequent cleansing of the eyes with a weak solution of boric acid, cold applications to the lids, local applications once daily to the under surface of the lids of a solution of nitrate of silver varying in strength from ½ to 2 per cent. Instillation of atropine as soon as ulceration of the cornea appeared and then consultation with the specialist before and after perforation of the cornea.

I have made it a special point to read critically the chapter devoted to blennorrhœa in a number of textbooks and essays, and will here record the views of a few.

Noyes (edition 1890 says) as soon as the secretion grows a little thicker and the swelling of the lids grow less, so that they can be everted, we are to resort to nitrate of silver in varying strength of from 1 to 2 per cent, (gr. v and x to ʒi).

This is not to be dropped between the lids because it will endanger the cornea. Later on he recommends the use of the mitigated stick by skillful hands, "in the later stages of the disease when papilliform swelling is extreme and the secretion is very thick."

In gonorrhœal ophthalmia he also advises the use of a 1 or 2 per cent. solution. He discountenances strong solutions in these words: "Formerly much stronger solutions were in vogue but they are not to be recommended, except in extreme cases, viz: 4 per cent."

Edward Meyer of Paris (edition 1887) recommends nitrate of silver 8 grs. to 1, but has preference for the mitigated stick; the same treatment holds good for gonorrhœal ophthalmia.

C. E. de Schweinitz 1892, also favors the use of a 1 or 2 per cent. solution. In severe cases the mitigated stick and even the solid pencil of nitrate of silver may be employed, great care being taken to neutralize the excess with a solution of common salt.

With reference to gonorrhœal ophthalmia, he is quite decided in his utterances: "At the proper stage nitrate of silver is the best remedy. It is rarely necessary to employ it in a strength greater than ten to fifteen grains to the ounce, but when granulations of the conjunctiva become exuberant the mitigated or solid stick at times alone will control the process."

Schweiger of Berlin, recommends local application of ½ per cent. solution of argentum nitricum at first, then later 2 and 3 per cent. He deprecates the use of the mitigated stick fearing the cicatrices it might produce.

Saemisch, Vol. 4, (Graefe and Saemisch Handbuch der Augenheilkunde), has written an exhaustive treatise on this subject. He also favors weak solutions of silver nitrate first and in aggravated cases the stick. He emphasizes the fact that the latter application be made to the retrotarsal fold only.

Fuch's instructions are rather meager; he mentions only the 2 per cent. solution of silver nitrate which is to be applied twice a day when the discharge is profuse.

Theobald Woods, (Reference Handbuch of the Medical Sciences) advocates a solution varying in strength from 2 to 4 per cent.

Schmidt-Rimpler's views almost coincide with those already given of the various writers here and abroad, regarding the strength of silver nitrate to be applied to the inner surface of the lids. The large majority are contented with a 2 per cent. solution and the mitigated stick in the extreme cases.

Solutions of this strength when used by competent hands will usually answer the purpose. The directions are not ordinarily explicit enough for the general practitioner. They suffice for a specialist who can take a great deal for granted.

Gentlemen, you will agree with me that a certain amount of skill is required to evert the lids and much more is requisite to bring the upper retrotarsal fold to view. Therein lies the solution of the problem. The remedy must be brought to bear on the cul de sac, that lax conjunctival tissue full of folds which is reflected from the upper lid margins on to the eyeball.

Two per cent. solutions applied to the tarsal part of the lids will not answer the purpose in most cases.

The practitioner makes the application to this part of the conjunctiva with the conviction that he has conformed to the rules laid down by writers. Soon the cornea becomes affected and the specialist is called in.

The use of the mitigated stick is a dangerous remedy to the inexperienced. If not carefully applied sloughs may result causing great loss of tissue and formation of cicatricial bands.

Again, it has been my experience that a 2 per cent. solution is often not nearly strong enough to control the purulent discharge. I have repeatedly treated neglected cases when nothing weaker than a 10 or 15 per cent. solution would answer the purpose.

The main object of this paper is to emphatically

denounce the idea which prevails among the fraternity, that a 2 per cent. solution of silver is a specific for all cases of blennorrhœa neonatorum.

The erroneous impression is largely due to the meager instructions of the textbook writers, and to the fears which have been instilled into the minds of physicians through teachers, of the deleterious action on the cornea of a stronger solution than that of 2 per cent.

These precepts have fallen on fertile ground and have so imbued the mind with the dangers attending a strong solution of silver nitrate that even a weak one is used with trepidation.

The treatment of this disease does not only consist in using nitrate of silver, but in knowing when and how to use it.

To understand this more fully we must briefly consider the various stages and forms of blennorrhœa. Two great varieties are recognized: The mild type characterized by a slight muco-purulent discharge and little swelling of the conjunctiva; and the other more severe form showing profuse discharge of creamy pus associated with a severe swelling of the conjunctiva and lids.

Both have a first stage of conjunctival congestion and swelling with no purulent discharge, and a second stage which only then exists, when a purulent secretion is established beyond a doubt.

The milder form of the trouble is readily controlled by cold applications to the lids and in the second stage by the instillation of saturated solutions of boracic acid every two hours, and a daily application to the everted lids and cul de sac of a 1 or 2 per cent. solution of silver nitrate.

The more virulent form requires more energetic measures. During the first stage caustics *must never be employed*; they are absolutely injurious to the swollen glistening conjunctiva.

The physician must content himself with explicit directions to the nurse to cleanse the parts every hour or two with a solution of bichloride of mercury 1 to 5,000, and a saturated solution of boric acid. Cold cloths taken from a cake of ice must be placed on the eyes day and night and changed as soon as warm. A point of great importance is to warn the attendant not to injure the cornea with pipette or brush. If the cornea is denuded of epithelium the least degree, a means of entrance is opened to the germs which rapidly multiply and cause ulceration of the tissue. When the purulent secretion begins then, too, begins the active work of the physician. The child's head must be taken between the knees, covered with a towel, the lower lid everted and the cornea covered with the upper one.

It is wiser to begin with the application of a 2 per cent. solution of nitrate of silver. This must remain in contact with the conjunctiva until it changes to a milky, bluish appearance. The excess of fluid is then removed with a brush dipped in water. If the solution employed should be a stronger one, it will be well to neutralize it by washing the parts with a weak solution of salt water.

The upper lid is treated in the same manner, the cornea being protected by the drawn up lower lid.

Of paramount importance is the retrotarsal fold. The rolls of swollen conjunctiva in this seat of danger must be conscientiously cleansed and similarly treated.

If this strength of nitrate of silver solution does not decrease the amount of discharge a stronger 6 per cent. must be employed the next day, and so we must be guided as to the strength of the application by the quantity of secretion.

I have frequently employed in dangerous cases, in rapid succession an 8, 10 and 15 per cent. solution and feel convinced that the energetic employment of these powerful measures, and these alone saved the cornea.

If great chemosis exists at the corneo-scleral margin, no delay in scarifying these parts should be countenanced. Prompt, decisive action is essential in the various stages of this disease.

The use of caustics is not recommended oftener than once every twenty-four hours, because it requires that length of time for the tissue changes to be effected.

Vaseline has of late years been much employed as a valuable lubricant to the inflamed conjunctiva, and as facilitating the removal of the secretion from the folds of the mucous membrane.

As soon as the swelling visibly subsides and the discharge decreases I invariably employ hot fomentations; my object now being to hasten the elimination of broken down material and to favor a more rapid resolution. The hot applications are made two hours in the morning and two in the afternoon, the instillation of antiseptic measures being continued in the meantime. Ulcerations of the cornea require the additional use of atropine and in case they are of a progressive character, application of a 95 per cent. solution of carbolic acid to the surface of the ulcer or the actual cautery.

A paper of this nature would hardly be complete were not mention made of the well known preventive measures. I am often astonished at the indifference shown by the profession to these thoroughly tested and efficient means.

The statistics of the largest hospitals in the world have proved their use beyond a shadow of a doubt. I will not tire you by repeating this long list of tables but will content myself by assuring you that the percentage of infection of the eyes of newborn children has fallen in institutes, where these measures are systematically enforced, from 5 and 10 per cent. to a fraction of 1 per cent.

My friend Dr. Mitchell, kindly compiled the obstetrical cases which were found in the Cook county hospital during a period of five years from 1883 to October, 1888, 1,232 cases. Only two cases of blennorrhœa neonatorum are recorded. During most of the service Houseman's method only was employed and it was found sufficient.

Houseman's method which consists of vaginal douches of a 1 per cent. solution of carbolic acid or a weak solution of bichloride before labor is a simple way of rendering the genital organs aseptic.

Every prospective mother should be instructed as to this method by her accoucher. A double precaution is Crede's method. A single drop of a 2 per cent. solution of nitrate of silver is to be instilled into the eyes of every newborn child.

I feel confident that we specialists would be called to attend fewer cases of blennorrhœa neonatorum if these rules were universally enforced, and I am equally convinced that fewer cases of ulceration and loss of the cornea would ensue if the use of a stronger solution of argentum nitricum at times were advocated by teachers and writers.

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SATURDAY, AUGUST 10, 1893.

## THE AMERICAN MEDICAL ASSOCIATION.

We publish in another column a very interesting and convincing argument from the *Medical News*, which shows the necessity that now exists for organization, and gives conclusive reasons why the AMERICAN MEDICAL ASSOCIATION should constitute the central rallying point. At the Milwaukee meeting the ASSOCIATION gained 273 new members, and there is no reason why the membership should not steadily grow throughout the year. The fact is self-evident that if the medical profession of this country wish to have power and influence in all matters in which they are interested they can only accomplish it by *organization*.

Membership in the ASSOCIATION can be secured at any time, and the door is wide enough for all qualified members of the profession to enter. The splitting up into myriads of small societies is to be deplored, as one of the surest means of disorganization The regular local, State and National societies surely afford a field broad enough for the full exercise of professional ability, however great, and the greatest men America has yet produced in the medical profession have been the founders and promoters of the AMERICAN MEDICAL ASSOCIATION. Let the active, restless spirits of to-day show what they can do in the arena made famous by the giants of the past.

## PHYSICIAN'S CERTIFICATE REQUIRED FOR SALE OF OPIUM.

In order to hedge about as much as possible the retail trade in opium there was in 1889 an order, or ordinance, passed by the Board of Supervisors of the city and county of San Francisco providing, among other things, in substance, that it should be unlawful for any apothecary or any person whatever to sell to any person in the city and county of San Francisco any opium, except upon written prescription or written order of a practicing physician, and only upon the day of the date of said prescription or order. It also provided that every person selling opium, etc., must keep a book and record therein the sale, the name, age, sex, color of the person receiving the same, the name and quantity thereof, as well as the name of the physician, and the name and residence of the patient, and that there should be attached to the bottle or parcel containing the article the name thereof, together with the name of the physician, the name of the druggist or other person who sold the article and his place of business. The prescription or order is required to be dated and signed by a physician, who must be a graduate in medicine with a diploma from a regularly constituted medical institution, and must contain the name and residence of the patient and the residence or office of the physician. Violation of any provision of the order was made a misdemeanor, punishable by fine, not exceeding five hundred dollars, or by imprisonment not exceeding six months, or by both such fine and imprisonment. This order or ordinance the Supreme Court of California has under date of July 15, 1893, just pronounced constitutional in the case of Hong Shen, notwithstanding that there was a State law which had for its object the regulation of the sale of poisons. The principle so settled is very important and should be given wider application.

## PRISON REFORM.

That there is need of prison reform in many States of our Union is evident from a glance at the statement of DR. P. D. SIMS of Chattanooga, published elsewhere in our columns. A mortality of 10 per centum is a frightful one, and it is especially lamentable as DR. SIMS points out, when the statistics show that under another system the mortality was only 15.1 per 1000.

The lease system, by which the convicts are leased or "farmed out" is responsible for this great outlet to convict life. One can not muster much sentiment for the woes of a hardened criminal, but the humanities, and a decent and proper self respect should induce all communities to take measures to insure proper hygiene in all prison establishments. This can only be done when such establishments are managed by the State. When managed by a lessee the system can only result in poor service, much needless suffering and wretchedness. The horrors depicted by Dickens, as witnessed in the cells of those condemned to solitary confinement are as nothing when compared with the condition of the poor wretches consigned to the unfeeling hands of the State contractor, who rewards or punishes, feeds or starves, according to his seared conscience, if he have any, or his cruel cupidity, if he have no conscience.

The commercial side of the question has too long governed in such matters, and it is pleasant to see

that, when the medical profession speaks at all in the localities where these abuses prevail, its voice is uniformly given on the side of humanity.

## A CASE OF MORAL LYNCHING.

To judge from the cases reported in the daily press, an epidemic of lynching has recently affected certain sections of the country—material lynching in which the body of the accused and summarily condemned individual has been scourged, hanged, perforated with bullets or burned, as dictated by the inhuman whim of mobs whose brutal action make us shudder at the idea of sharing with them our common humanity. In view of the arraignment of DR., or to give him his official title, COLONEL AINSWORTH, for his alleged participation in the manslaughter of the unfortunate victims of the Ford theater disaster, we are inclined to inquire if the epidemic aforesaid has not spread to the capital of the nation and if this arraignment is one of its manifestations.

In one at least of the material cases referred to, no sooner was the act accomplished than the discovery was made that lynch law had been too precipitate and a guiltless victim hurried to eternity. This suggests at least a halt for inquiry in the case of DR. AINSWORTH. Now that the thirst for a victim has been satiated by his indictment and arraignment, there is time to overlook his unpopularity with his clerks, to cease the newspaper cry for a sacrifice, and even to consider whether our legal formalities culminating in this arraignment were wholly uninfluenced by that popular clamor which was so insistent at the first inquest that its proceedings were annulled, nominally on the ground of lack of jurisdiction on the part of the presiding officer.

The facts as developed are as follow: No man has a better record as an executive officer than DR. AINSWORTH. Part of DR. AINSWORTH'S force of clerks had to work in a building so badly lighted that gas had to be burned in some part of it every day. It was evident that electric lighting would remedy this, and AINSWORTH, as any other progressive man would have done, made inquiry into the feasibility of introducing the needful plant. The proposition was referred to that bureau of the War Department which has charge of all supplies and improvements. This bureau, as is customary, advertised and more than a dozen men investigated the building with the view of undertaking the work, and every one of them offered to undertake it. Not one of these practical workmen suggested that there would be danger to the building. The contract, as is usual in such cases, was given to the lowest bidder; but not until DR. AINSWORTH had so far interfered with the routine methods of the contracting bureau as to make private inquiries into the standing and reputation of the particular contractor. Having learned that he had been for many years engaged in such work, and that he was held in good repute by contractors and builders intimately acquainted with him, the contract was approved and the work commenced. AINSWORTH has been blamed for not furloughing his men while the alterations were in progress, but it must be remembered that none of the contractors who had investigated the building and bid on the work made any suggestion of danger in connection with it.

The accident happened and every one became very wise; but before its occurrence there was no thought of danger. Washington was horrorstruck when the ghastly news was passed from mouth to mouth; something had to be done, and the arraignment of the chief of the office, among others implicated in the responsibility, has been the result. Was it a case of moral lynching?

## HEALTH OF CHICAGO.

During the month of July 2,924 deaths occurred. The annual death rate per 1,000 was 21.64, and the number of deaths under five years was 1,775. Of these, cholera infantum caused 665, a greater number than by any other disease, while there were also 452 deaths by diseases of the abdominal cavity. The other chief causes of death were phthisis, 186; pneumonia, 79; diphtheria, 58; cancer, 56; typhoid fever, 55, and bronchitis, 55.

In the month of June 1,942 deaths occurred, and the annual death rate was 14.79, and the number of deaths under five years, 766. The chief causes of death were phthisis, 193; pneumonia, 141; bronchitis, 90; diphtheria, 71; typhoid fever, 60; cholera infantum, 56; cancer, 87; cerebral meningitis, 52.

In comparing the mortality of the months of June and July, it must be borne in mind that the death rate of June is always low; in fact, the health generally is better than any month of the year. Occasionally, however, when there is a marked increase of temperature the latter part of the month, the death rate increases and becomes higher than that of December. It will be observed that in June the highest mortality is among the diseases affecting the respiratory organs in adults, while in July, with a higher temperature there is a great increase of diseases affecting the alimentary canal, and infantile life.

For the week ending August 5 the total number of deaths was 646; under 5 years 394, and the annual death rate per 1,000, 21.32.

Compared with the month of July there is a marked decrease in the number of deaths, especially of those under five years. The mortality here is always the highest in July and August. For the last five weeks

the health of the city has been good, taking into consideration all the factors that influence life, and at this time it is exceptionally good. There is also a less than usual tendency to diarrhœal disease, and a less marked prevalence than usual of the ordinary contagious and infectious diseases. The cause of the present health status is undoubtedly owing to the fine weather that we have had during the period under consideration. While it is true that for a short time the temperature was high, the average was lower than usual. There is no doubt that the effluvia of the Chicago river at one time had its effect upon life. The mortality from typhoid fever is still in excess. How long the present excellent condition of the health will last cannot be told.

### A CRAZY PHYSICIAN.

DR. ROBERT LINCOLN WATKINS, of New York City, had himself inoculated with the tubercular bacillus, in the form of pure culture of the microörganism obtained from phthisical sputum. This was done at the Loomis Laboratory attached to the University of New York. DR. WATKINS also ingested a considerable quantity of the same culture. He has subjected himself to these experiments as an evidence that tuberculosis does not depend solely on the introduction of the bacillus tuberculosis into the human system. He believes that a healthy person, that is a person whose blood does not contain the so-called "third corpuscle," is absolutely immune to the bacillus. He has repeatedly examined his own blood and never having found the dangerous corpuscle, he has determined to put his theory to the test in his own person. Control experiments on one or more guinea-pigs were made with the same virus, in the belief that the animal or animals will, within six weeks, become manifestly tuberculosed, while he himself will be in unimpaired condition. If the accepted theories of the profession hold good in this case, twelve weeks from the time of the inoculation of DR. WATKINS will see him the victim of induced tuberculosis. But even this condition will give the experimenter little uneasiness, for his theory also comprises the curability of that disease when it is combated early. This is accomplished by the eradication of the "tubercular blood corpuscle," or hematoblast, from the blood.

This is not the first time that DR. WATKINS has fenced with death. In 1892, while in Paris, he was inoculated at the Pasteur Institute with a culture of the spirillum of cholera. He rapidly developed intense choleraic symptoms and for a brief time was seriously ill. This condition was overcome and on the following day the adventurous experimenter was as well as before.

DR. WATKINS is reported to be an exceptionally robust person, and if he remains well it may devolve on him to meet arguments to the effect that he is immune to the tubercular bacillus for other reasons than the absence of the so-called tubercular corpuscle from his blood. He has already been brought face to face with statements of some of his colleagues who claim to have repeatedly found the third corpuscle in the blood of persons who were not then or at any subsequent period the subjects of tuberculosis.

### PROFESSOR SENN'S ADDRESS.

We publish elsewhere PROF. SENN's address at the opening session of the Association of Military Surgeons of the National Guard. As will be seen, DR. SENN has chosen a scientific rather than a general topic for his address. He has produced the most complete historical research yet compiled on the subject of intestinal suturing, and an examination of the accompanying illustrations will dispose of many an inchoate claim of priority. The engravings from the old masters brought out afresh by PROF. SENN exclusively in the JOURNAL will, we are sure, interest every reader, and in reading the other portions of the address, the ASSOCIATION members will once more have a pleasant reminder that their own JOURNAL is in the front as a gatherer of medical news.

## ASSOCIATION NEWS.

**The Disorganization of the American Medical Profession.**—"Did you attend the meeting of the American Medical Association at Milwaukee?" was asked of a physician a few days ago. "O, no! I do not train with that sort of a crowd," was the unexpected reply. This attitude of mind was hopeless, and the suggested Dundreary proverb concerning the kind of a bird that "flocks all alone by himself," was useless.

But this attitude of mind is one that two bodies have to look to a bit. The medical profession, as a whole, will sooner or later give it a sharp answer, and, whether this answer be spontaneous or compelled, another somewhat important body, called "the body politic," will have a very decisive word to say about it.

The disease is evident; it is a rebellion of the members against the whole body; it is an exaggeration of individualism, a democracy so rampant that factionalism has become easier than union. We are, it is true, in the full-tide of political democracy, but we have not yet reached socialism or anarchy. We still abide politically in representative government and (at least since 1861) in the rule of the majority. But in medicine we seem to think no organization necessary, and that professional individualism, factionalism, or anarchy is our natural state. There is even a touch of pride in flocking by oneself or with a half dozen like-minded self-flatterers.

Have we, then, no common duty, such a duty as can only be performed by the profession acting and speaking as a whole? If not, then of course there is no logical or valid answer to individualism. But to ask the question is to answer it with a ringing "Yes, we have such duties, and we are disloyal if we say we have not!"

But viewed simply as a professional matter, a little family affair with which, *pro tempore*, it may be admitted the lay world has no concern, what about this indifference to organization and this refusal of corporate duty? It is

plainly a question of self vs. the medical profession; it is, frankly, nothing more than professional rebellion.

It is smiled over and talked about as an open secret that the formation of so many select and membership-limited societies of specialists has been motived by other reasons than dissatisfaction with the American Medical Association. It is said that they are not to be viewed as corporate protests against the "politics" and "the methods" of that, or indeed of any possible general organization, but that they are attempts to divide the consultation practice of the country among the limited number of fortunate members. This may be untrue. It is not for us to decide, but the action certainly permits the suspicion to arise, and the way to allay it is not to continue the contemptuous indifference to, and utter neglect of, some common organization.

It may also be noted that there is no evil more evident, no evil more universally deplored by rational medicine than the evil of medical sectarianism. But what bouffé logic, to complain of the homeopathic, eclectic or Kneipe crank and sectarian, while scorning general organization, and manufacturing factions and special limited societies, even within the regular profession. So long as the profession does not shake itself together and present to the public the spectacle of a united body of men agreed upon all the essentials of medical practice, just so long will that profession not command the respect of the world, and just so long will it be unable to accomplish its proper and destined work. To-day we are powerless to cause medical schools to be conducted for the sake of medicine instead of for the sake of the proprietors and professors; we are powerless to crush the hideous "patent" and proprietary medicine business; powerless to get "medical" newspapers conducted for medicine instead of for the advertiser; powerless to bring about the nationalization of health; powerless to prevent the needless and useless one-fourth of all deaths and the one-half or more of the sickness that is such an enormous tax on the commonwealth and crippler of all social energy. And why this powerlessness? Simply because of medical sectarianism, professional disorganization and anarchy.

There are numberless reasons that might be brought against the individualist and his neglect of professional organization. Sooner or later the common sense, or the sense that should be common, of the mass of physicians will recognize the fact that there is or must be such a thing as professional interests and duties, and that members of the profession must be held to an acknowledgment of them. Then will there be a quick ending of the factionalist and egotist. In every civilized country of Europe there is such organization and accountability. Even barbarous Russia regulates and stigmatizes the trade in patent medicine that free and civilized America sends to her in shiploads!

It was the witty saying of a wise man that democracy is only making pi, and certainly medical democracy is the absurdest of pi-making. Professional self-interest and the public interest stare at us from every aspect of life and work. There is no intelligence or corporate strength in this disunion. It is our duty to unite and to encourage *esprit de corps* by organization. Factionalism is an *esprit de corpse*, if the bad pun may be pardoned, and professional rebellion must be stigmatized, if not punished.

Considered simply as the largest medical organization in the United States, the American Medical Association offers the most suitable and the most probable gravitational center to which must gather the subordinate elements and groups. If not to your liking, it is not very liable to become more so by your non-membership. Parties, whether political or medical, are not mended by letting them alone. In every large organization thousands of minor differences and individual preferences must be sacrificed. The need of some organization is so great that longer to delay it is vanity and selfishness and whimsicality. There is slowly arising a general medical consciousness—unseen or scorned by the politician and anarchist—a spirit of centralization, a recognition of the duty of unity, nay, of the self-interest of unity. It will be well to reckon with this spirit, because its rule is as inevitable as its coming. There must be an end of this "flocking by oneself," this cliqueism, coterie forming, and limitless pi-making. This attitude of everlasting criticism by the disgruntled is silly and pig-headed. An aroused profession must sweep it aside, or else an aroused public sentiment will sweep an unworthy profession aside. There is even now a plain intimation of such a public condemnation of us in the fact that preventive medicine—the coming greater part of all medicine—is willy-nilly being taken out of the hands of physicians, and is being cultivated by the non-medical scientist. If this shall in fact and completely come about, it will be our own fault, a plain case of *felo de se*.

The American medical profession has one preëminent and imperative duty before it, to which all other interests and duties must be sacrificed, and that is the duty to organize. —*Medical News*, Aug. 5, 1893.

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**Query from the Omaha Clinic.**—Mr. Hart does not realize that the profession in America has the same view as in England concerning consultation with homeopaths.

He says: "How can we expect to enter into consultation with one whom we believe to be possibly practicing an honest delusion, and yet with whom we must accept the position of a mere solver of riddles?"

The agitation on this point has long since gone by. Here is the question for which the new code men strive: May a regular go with a homeopath to see a patient, or may the latter bring the patient to his office, if the patient is treated according to rational medicine?

It is fair to conclude that when a homeopath needs a regular he needs him badly or he would not call him, and, "as the good of the patient is the sole object in view," this is a strong argument on the part of the new code men.

In the nature of things it appears difficult to frame in words the meaning of this; certainly the Committee on Revision do not put it clearly. And until the new code men say just what they mean it might be as well to keep to the old code, or if they can't say what they mean, and this is best for medicine and the people, then let us have no written code for contention. We want to know next year, at San Francisco, intelligibly, just what we are voting on.

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**The Hahnemannic View.**—The American Medical Association is still at work upon the old subject, a Code of Ethics for a profession whose individual members are not considered gentlemanly enough by confrères to furnish their own code, but are required to be placed in the leading strings of an association to keep them within the bounds of decency and common honesty. The committee on the Code of Ethics, presented at the last meeting of the Association a majority and minority report, neither of which was acted upon. The majority report in spirit recommends the individual conscience as a sufficient code, while the minority have not the same confidence in their brethren and insist that the code with its restrictions and fraternal advice stand as it is. The *Medical Record* in speaking editorially upon the subject says what we most heartily endorse: "We doubt if any good will come from continuing to discuss these questions. We prefer to teach the gospel of virtuousness and let the details be determined by the individual conscience. The individual conscience, we may add, is setting strongly towards consulting with all qualified practitioners who enjoy a reputation for honesty among their fellowmen."

And to this conclusion we presume all sensible men will come at no distant day.—*N. Y. Medical Times* (Homœop.).

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## SOCIETY NEWS.

**The Pan-American Medical Congress.**—The program of the Section on Pathology is as follows: Special attention of the profession is called to the practical demonstrations in Pathology, Photo-microscopy and Bacteriology.

One session devoted to a formal discussion on the subject of cancer to be opened by Dr. Wernicke of Buenos Ayres, and, as co-referee, Prof. Allen J. Smith of Galveston. Papers on this subject have been promised by Dr. Joshua M. Van Cott, Honorary President of the section, and Dr. Joseph McFarland of the Advisory Council.

Another session will be devoted to Yellow Fever, the discussion to be opened by Drs. Acosta and Grande of Havana,

Cuba, and as co-referee, Dr. A. J. Amades of Puerto Rico, Honorary President.

One day, two sessions, will be devoted to Practical Demonstrations, as follows:

Dr. James E. Reeves of Chattanooga, of the Advisory Council: Practical Demonstration of the methods in Pathological Histology.

Dr. Wm. M. Gray of the Army Medical Museum: Practical Demonstration of the methods in Photography applied to Pathology.

Dr. J. J. Kinyoun, P. A. Surg. U. S. Marine Hospital service: Practical Demonstration of methods in Bacteriology.

Papers have been promised as follows:

1. Notes on Three Years' Work in the Pathological Laboratory of the Charity Hospital of New Orleans, by Dr. Henry Dickson Bruns of New Orleans.

2. Medical Geography of Puerto Pico, by Dr. A. J. Amades of Puerto Rico.

3. Theories of Inflammation, by Dr. Jose Torres Matos of Havana.

4. On Inflammation, by Dr. E. O. Shakespeare of Philadelphia.

5. On Cholera, Dr. Herman M. Briggs of New York.

6. L'etat de Hyperexcitabilite du Nerf Phrenique, dans le Beribiri, by Dr. J. B. de Lacerda of Rio de Janeiro.

7. Paludismo, by Dr. A. J. Amades of Puerto Rico.

8. Bacteriological Observations on the Waters of the Harbor of Havana, by Drs. Acosta and Grande.

9. Observations on Malaria, by Drs. Coronado and Madau.

10. Operations of the Anti-rabic Laboratory in Havana, by Dr. Acosta.

11. Abscess of the Liver, by Dr. James E. Reeves of Chattanooga.

12. On Influenza, by Dr. Ramon Guiteras of New York.

13. Observations on the Brains of Feeble Minded Children, by Dr. Henry W. Cattell.

14. Pathology of Pelvic Inflammatory Trouble, Dr. Joseph Price, Philadelphia.

Papers have been promised, without giving the subject, by Prof. Wm. H. Welch, of Baltimore; by Dr. W. J. Councilman of Boston; and by Dr. G. F. H. Nuttall of Baltimore, and Drs. Wm. Hughes and W. J. Carter of Philadelphia.

John Guiteras, M.D., Executive President, Philadelphia, Pa.; David Inglis, M.D., English-speaking Secretary, Detroit, Mich.; L. F. Criado, M.D., Spanish-speaking Secretary, Brooklyn.

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**Medical Society of Virginia.**—Preliminary announcement of the Twenty-fourth Annual Session, Charlottesville, Va., October 3–5, 1893.

The Twenty-fourth Annual Session will convene in Charlottesville, Va., 7:30 P. M., Tuesday, October 3rd, 1893.

Authors must send to the recording secretary titles of papers "at least five weeks before the session—failure in which will relegate any papers to the last day of the session." The secretary classifies titles according to subjects, and assigns the order of their presentation. Half an hour only is allowed for the reading of a paper, "and fifteen minutes for each discussion."

Subject for general discussion is "Chronic Nephritis"; leader, Dr. R. M. Slaughter, Theological Seminary, Va. Parties preparing papers on this, as also on other subjects, should inform the secretary of any notes they may wish made in the circular "Announcement," to be issued a month hence.

Competitors for Dr. Hunter McGuire's prize of $100 for essay on "Obstruction to the Function of Micturition," as also for Dr. Joseph Price's prize of $100 for "History of Surgery and of Surgeons of Virginia," must forward their essays to the recording secretary on or before September 20th, 1893. (For particulars, see pages 209 and 210, *Trans. Med. Soc., Va.*, 1892.)

Address matters referring to Medical Examining Board of Virginia to its President (Dr. Hugh M. Taylor) or its secretary (Dr. Benj. Harrison, Richmond, Va). Examinations will be held in Richmond, September 19, 20th, and 21st, 1893.

Send applications for Fellowship, with $2 initiation fee, to Dr. Wm. D. Turner, Fergusson's Wharf, Isle of Wight county, Va., Chairman Committee on Nominations of applicants for Fellowship, etc.

Address other communications according to their character to the president, Dr. Herbert M. Nash, Norfolk, Va.; recording secretary, Dr. Landon B. Edwards, Richmond, Va.; treasurer, Dr. Richard T. Styll, Hollins, Roanoke county, Va.; chairman Executive Committee, Dr. Hunter McGuire, Richmond, Va.; corresponding secretary, Dr. J. F. Winn, Richmond, Va.; chairman Committee Arrangements, Dr. E. M. Magruder, Charlottesville, Va.

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**Iowa Public Health Association.**—THIRD ANNUAL SESSION.—The local Committee of Arrangements desire to announce that the third annual meeting of the Iowa Public Health Association will be held in the city of Davenport, Iowa, August 31 and September 1, 1893, beginning at 10 o'clock A. M., August 31. Headquarters will be at the Business Men's Association rooms in the Masonic Temple.

The following persons will read papers upon subjects of interest pertaining to "Sanitary Science" in its various branches. Other subjects will also be presented for discussion:

Dr. Paschal Davis, Keokuk, Iowa; Rev. J. F. Kempner, M.D., Davenport, Iowa; Dr. Werland, Dubuque, Iowa; Prof. J. C. Shrader, President State Board of Health, Iowa City, Iowa; Dr. George L. Eyster, Rock Island, Ill.; Dr. W. H. Jones, Keokuk, Iowa; Dr. A. W. Morhead, Keokuk, Iowa; Dr. J. M. Watzek, Davenport, Iowa; Dr. C. H. Preston, Davenport, Iowa; Dr. Wm. O. Kulp, Davenport, Iowa; Dr. J. P. Crawford, Davenport, Iowa; Dr. Rosa Upson, Marshalltown, Iowa; Prof. E. L. Boem, Sr., Iowa City, Iowa; Dr. Chas. M. Robertson, Davenport, Iowa; Prof. E. G. Smith, Beloit, Wis.

Paschal Davis, M.D., is president and P. J. Fullerton, M.D., is secretary.

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**American Dermatological Association.**—Program of the Seventeenth Annual Meeting to be held at the Hotel Pfister, Milwaukee, Wis., September 5, 6 and 7, 1893.

Officers for 1893.—President, George Henry Fox, M.D. of New York; vice-president, Henry W. Stelwagon, M.D. of Philadelphia; secretary and treasurer, George T. Jackson, M.D. of New York; council, E. B. Bronson, M.D., G. H. Fox, M.D., G. T. Jackson, M.D., H. W. Stelwagon, M.D., J. C. White, M.D.

First day, Tuesday, September 5, 1893. Business Meeting (with closed doors) at 9:30 A. M.; Report of the Council; Nomination of Officers for the ensuing year; Appointment of Auditing Committee; Proposals for Active and Honorary Membership; Miscellaneous Business.

Morning session at 10:30 o'clock. President's address.

PAPERS.

1. Antiseptic Treatment of Skin Diseases. By Dr. C. W. Cutler.

2. The Principles of Antisepsis in the Treatment of Eczema. By Dr. H. G. Klotz.

3. Cosmetics. By Dr. R. B. Morison.

Adjournment at 1 P. M.

Evening session at 8 o'clock.

4. A Case of Tuberculosis of the Skin simulating Lupus erythematosus. By Dr. W. A. Hardaway.

5. A Case of Rhinoscleroma. By Dr. G. T. Jackson.

6. Atrophia Maculosa Cutis, with a Case. By Dr. W. T Corlett.

Dr. H. R. Crocker of London, will read a paper on "Lupus erythematosus as an Imitator."

Second day, Wednesday, September 6, 1893. Business Meeting (with closed doors) at 9:30 A. M.; Reports of Treasurer and Auditing Committee; Election of Officers; Report of the Council upon Candidates for Membership; Election of Active and Honorary Members; Selection of time and place of next meeting; Miscellaneous Business.

Morning session at 10:30 o'clock. Report of Committee on Statistics.

General discussion on

1. Pityriasis Rosæ: *a*, its etiology; *b*, its relation to ringworm, seborrhœa, eczema, etc.; *c*, its treatment.

2. Dermatitis Exfoliativa: *a*, its clinical forms; *b*, its etiology; *c*, its treatment.

3. What do We Understand by Pemphigus?

Adjournment at 1 P. M.
Evening session at 8 o'clock.
7. A Contribution to the Pathology of Acne Varioliformis. By Dr. J. A. Fordyce.
8. Angiokeratoma. By Dr. J. Zeisler.
9. Subject to be announced. By Dr. M. B. Hartzell.

### The Association of Military Surgeons of the National Guard of the United States.

*Abstract of the Proceedings of the Third Annual Meeting, held in Chicago, Ill., August 8, 9 and 10, 1893.*

FIRST DAY—MORNING SESSION.

The Association met in the upper amphitheater of Rush Medical College, and was called to order by the President, Dr. NICHOLAS SENN of Chicago, at 10 A. M.

In the absence of the REV. H. W. THOMAS, Chaplain of the Illinois National Guards, prayer was offered by BISHOP SAMUEL FALLOWS of Chicago.

PRESIDENT SENN then introduced the Hon. CARTER H. HARRISON, Mayor of the city of Chicago, who delivered one of his happy and characteristic addresses of welcome.

Dr. TRUMAN W. MILLER of Chicago, addressed the members on behalf of the local medical profession. He said, aside from presenting them with the active scientific work in our institutions, we had to show them in our glorious White City, conceived by the wizard's brain and built by the touch of the magician's wand, exhibits from all nations of the latest appliances, methods and preparations known or used for the advancement of medical and surgical science, and it was with great professional pride that he invited their attention to the exhibits made by the government through the officers of the Army, Navy and Marine Hospital Service, together with those of our universities, feeling that they would be convinced that we were rapidly progressing in scientific investigations. Medical men had always been expected to give a large part of their services for the relief of the human race without a full recognition of their value, but he believed that a well established association of military surgeons would command the respect and a position in military organizations which could be attained by no other means. In every State an effort should be made to advance the standard of its medical staff.

Dr. ALBERT H. BRIGGS of Buffalo, in the absence of Dr. LEWIS W. READ of Norristown, Pa., responded for the Association and thanked the local committee for their warm greeting.

The report of the Committee of Arrangements was then made by the chairman, Dr. CHARLES ADAMS of Chicago. He announced a reception to be given by PRESIDENT SENN in the evening, and a theater party on Wednesday evening.

MAJ. NELSON H. HENRY, of New York, 1st Vice President, then took the chair and PRESIDENT SENN delivered his address. He selected for his subject, "Enteforrhaphy; its History, Technique, and Present Status."

The address was listened to with marked attention, and at its close a vote of thanks was extended to PRESIDENT SENN for his exhaustive and highly interesting résumé of the subject of the intestinal suture.

An executive meeting was announced for the morning of the second day at the United States Army Hospital at the World's Fair grounds. The Association will then discuss the practicability of changing its name to "The Association of Military Surgeons of the United States," and its scope will be enlarged to include the medical staff of the army, navy and marine hospital corps.

Arrangements will be made for an international congress, to be held in this country in 1894. Steps will also be taken to memorialize Congress concerning the establishment by the government of a military medical school.

The Association discussed the feasibility of establishing a military medical journal of the United States. A committee of three was appointed for this purpose to report at the executive session.

A cold collation was served at mid-day in the Presbyterian Hospital adjacent to Rush Medical College.

On motion the Association adjourned to meet at the U. S. Army Hospital at the World's Columbian Exposition, Wednesday afternoon at 2.

In the afternoon, PROFESSOR W. W. KEEN of Philadelphia, (by invitation) gave a surgical clinic, which was largely attended by military surgeons and distinguished physicians from out of town.

In the evening a reception was given by COLONEL SENN at his residence.

*(To be continued.)*

## BOOK NOTICES.

**Transactions of the Medical Society of the State of New York for the Year 1893.** 8vo, cloth, gilt top, pp. 540.

This handsome volume, one of the best of State Medical Society publications, sets forth in detail the proceedings of the annual meeting held in Albany February, 1893. The society adopted the following resolution in regard to the AMERICAN MEDICAL ASSOCIATION:

"*Resolved*, That the Medical Society of the State of New York deems it unwise at this time to appoint any committee of conference with the American Medical Association on the subject of Medical Ethics as requested by that distinguished body, but the Medical Society of the State of New York ventures to express the hope that the American Medical Association at no distant day will take such action as will remove the merely technical obstacle to the most cordial coöperation between the societies."

This resolution was signed by Drs. A. VANDER VEER, D. B. ST. JOHN ROOSA, A. WALTER SUITER, HENRY L. ELSNER and GEORGE MCNAUGHTON.

The President, Dr. LEWIS S. PILCHER, had spoken very frankly on the subject in his address as follows:

"I have the pleasure of presenting to this society at this time a communication from Dr. William B. Atkinson, Permanent Secretary of the American Medical Association, transmitting a resolution adopted by that Association at its session held in Detroit, June, 1892, appointing a committee of five who are instructed to meet a like committee from the State Medical Society of New York, and the State Medical Association of New York, for the purpose of adjusting all questions of eligibility of members of the State Medical Society of New York to membership in that Association, and notifying this society that the committee in question had been appointed, consisting of Drs. N. S. Davis of Illinois, John H. Rauch of Illinois, Wm. T. Briggs of Tennessee, Dudley S. Reynolds of Kentucky and Willis P. King of Missouri.

"The evident intention of this resolution was to request that this society appoint a similar committee to confer with the committee named, although the communication as transmitted does not say so.

"It is difficult to see what purpose such a conference as is proposed could serve. The American Medical Association is very properly its own judge of what shall be the qualifications required of its members. It is a voluntary association, responsible to no one, and may change its standard of admission at will. At its session at St. Paul in June, 1882, it voted that the Medical Society of the State of New York was not entitled to representation in it, because the code of ethics adopted by that society essentially differed from and was in conflict with the Code of Ethics of the American Medical Association. The status of affairs to-day differs in no respect from what prevailed in 1882, save that a year or two later the American Medical Association adopted an explanatory declaration which practically interpreted its own Code to mean the same as the code already adopted by the Medical Society of the State of New York. It did not, however, rescind the vote of disfellowship adopted in 1882, but on the contrary, at the recent meeting in Detroit, renewed it and extended it to embrace not only this society as an organization, but also all persons who affiliated with it. At this same meeting also, it appointed a committee to report upon a revision of its own Code of Ethics. There is, therefore, no certainty as to what the future Code of Ethics of the American Medical Association will be. It would be highly improper for the Medical Society of the State of New York to assume in any way to dictate or even to suggest to any organization not subordinate to it what ethical standard, if any, such an organization should adopt. It must content itself with regulating its own standards, as it now does, suggesting in turn that it is equally indelicate for organizations which have no supervising relation to it to extend advice as to its internal affairs. Practically the relations of the Medical Society of the State of New York to the American Medical Association are the same as those which it sustains to the British Medical Association, the Canadian and Ontario Medical Associations, and to the medical societies of the various adjacent States to which it is in the habit of sending delegates annually, viz., the relations of courtesy and comity. All these medical organizations named continue to receive with due honor and respect the delegates appointed

by this society, and doubtless, whenever the American Medical Association shall signify its desire that this society shall again send delegates to its meetings, such will be sent. The Medical Society of the State of New York, however, must meanwhile be content to do its own work in its own way, awaiting the pleasure of the Association in question. Nevertheless, since a failure by this society to appoint such a committee as is contemplated in the communication from the American Medical Association would doubtless be construed by many, who are still ignorant of the real relations which exist between the two organizations, as displaying a factious and quarrelsome spirit, and as a matter of simple professional courtesy I would advise that a committee of five be appointed by this society to meet the committee of the American Medical Association, as requested.

"In the course of the discussions which have been provoked by the action of the American Medical Association just alluded to, it has come to the knowledge of your President that many of the physicians in this State are convinced that in view of the present state of general enlightenment prevailing throughout the State of New York, and the safeguards which by legal enactments are thrown about the entrance to the medical profession, it would comport more with the dignity of the medical profession, and would enhance the respect in which it is held by the general public, if all specific rules of ethical conduct were elided from the by-laws of the State Medical Society, and if the regulation of such matters were hereafter left to the judgment of individual practitioners influenced by the known consensus of professional opinion and local custom in the places where the work of each is being carried on. Among a large number of representative physicians from all parts of the State with whom I have conferred on this point I have found a singular unanimity of feeling on this subject. The only hesitancy which any have expressed has been as to whether it would be wise, since practically this is already the present status of the profession in this State, to make any movement looking to the formal elision of a code from our by-laws, lest it should revive acrimonious discussion and reawaken strife that would be detrimental to the higher interests of the profession in this State. By farthe greater weight of the opinions which I have been able to elicit has, however, been that no such action would follow, but on the contrary that such action would tend still more to heal old differences and bring together all the elements of the medical profession in this State. Such is also my own mature opinion, and further it has seemed to me that at present, when there is a general revival of interest in the matter of professional ethics, as is evidenced by the discussions which are now going on in the medical journals of the country, and when the question of codes is again unavoidably brought to the attention of this society, that it is a specially favorable moment for taking this final step."

The papers begin with a scholarly presidential address "On the Evolution of the American Surgeon," by Dr. Lewis S. Pilcher of Brooklyn. After a brief discussion of the history and general status of surgery as a sort of prologue to his theme, he begins with a sketch of McDowell, refers to Morton's invention of anæsthesia by inhalation, and closes by an enumeration of the lasting labors of Mott, Smith, Reid, Gunn, Bigelow, Buck, Davis, Sayre, Taylor, Shaffer, Otis, Marion Sims, Bull, Parkes, Senn, McBurney, Weir, Stimson, Fowler and O'Dwyer. It is perhaps not remarkable that extreme provincialism should omit all mention of Philadelphia, Charleston, Richmond, Louisville, Cincinnati, New Orleans and St. Louis surgeons from his list, but it is singular that Frank Hamilton, Willard Parker, J. R. Wood, E. M. Moore and Gouley should have been omitted. If any two men have made a mark in the surgery of New York, it was surely Frank Hastings Hamilton and Willard Parker. The classics have evidently been well studied by Dr. Pilcher, but his work on "American Surgery" is singularly inadequate.

The scientific papers in the volume, which are of exceptional value, have been mentioned in the current medical journals shortly after the time of the meeting and therefore need no further comment.

**The Bacterial Poisons.** By DR. N. GAMALEIA. Translated by E. P. HURD, M.D. Paper, 16mo., pp. 136. Detroit: George S. Davis. 1893.

This book includes an experimental study of the putrid poisons, the microbial etiology of putrefaction and of the infections, the discovery of ptomaines, the chemical nature of the bacterial poisons, their origin, and action on animal organisms; besides a chapter each on the poisons of tetanus, diphtheria, cholera, tuberculosis, charbon and glanders. We commend the book, but it should have an index.

**Missouri State Medical Directory;** containing a carefully revised list of Physicians, Dentists and Druggists, together with the Colleges, Hospitals, Sociéties and Medical Journals of the State, arranged by counties for convenience of Society Secretaries. Pocket size, 120 pp., cloth, gold embossing Published by *The Medical Fortnightly*, 1006 Olive street, St. Louis. Price $3, postpaid.

A handy directory for all Missourians, and those having business with them. Such books are always useful to the profession.

**Weekly Abstract of Sanitary Reports** issued by the Supervising Surgeon General M. H. S. Vol. vii, Nos. 1 to 53. Washington: Government Printing Office. 1893.

This volume of 870 pages is composed of the weekly numbers of the *Abstract of Sanitary Reports* published by the Marine Hospital Bureau, bound in convenient form and having a copious index.

## NECROLOGY.

**Dr. David R. Dyche.**—Dr. David R. Dyche of Evanston, died in that city Aug. 4th, 1893, from meningitis following a carbuncle of the face. The *Chicago Tribune* gives the following sketch of his life:

Dr. Dyche was of German descent and was born on a farm near Lebanon, Warren county, O., March 11, 1827. He graduated from the Cincinnati Medical College at the age of 25 and began the practice of medicine at Monroe, O., where he remained in practice for twelve years. Early in the sixties the doctor's brother, George Dyche, came to Chicago and opened a drug store. In 1864 he was ill and Dr. Dyche came here to attend to the sick man and subsequently located, The young physician associated himself with Dr. R. M. Bogue and continued for years with him in the practice of medicine. He also went into the drug business, having a store on the corner of Randolph and Dearborn and another on the corner of Madison and Halsted streets. The latter escaped the great fire but the former was burned. Immediately after the fire he began the erection of the block on the northwest corner of State and Randolph streets, where he located and remained in business up to the time of his death.

Dr. Dyche has always taken a prominent part in religious and philanthropic work. He was one of the founders and a member of the Board of Trustees of the Centenary Methodist Church. He removed to Evanston in 1874 and became a member of the First Methodist Church there, and has been a member of the Board of Trustees for several years. He has been a trustee of the Northwestern University for the last eighteen years and also a member of the Executive committee. He was also president of the Citizens League of Evanston, an organization for enforcing the prohibitory liquor law in that place. He was one of the founders of the Illinois College of Pharmacy, established in 1885, and was President of its Board of Trustees till it became a department of the Northwestern University in1888. Dr. Dyche was married at the age of 30 to Miss Mary S. Boyd, who with two sons, George B. Dyche and Ald. William Dyche of Evanston survive him.

**Dr. Pinneo.**—Dr. Timothy Stone Pinneo, author of Pinneo's Grammars and the reviser of the McGuffey Readers, died at Norwalk, Conn., Wednesday, in his 90th year. He was one of the oldest living alumni of Yale. He entered that college at the age of 16, and was graduated from the classical and medical departments with high honors. For a time he practiced medicine in the South, but failing health obliged him to abandon this field and to accept the professorship of belles lettres in Marietta College, Ohio. The last years of his life were spent at the head of a school in Greenwich.

**Dr. F. B. Huse.**—Dr. Fred B. Huse of San Francisco died Aug. 7, at Wesley hospital, Chicago. He was once a resident of Evanston and was in Chicago visiting the world's fair. An attack of typhoid fever proved fatal.

Dr. Huse was 50 years old and lived in Evanston until

1874. He was graduated from the Northwestern University in 1868 and spent a year or two in European travel. In 1871 he entered the Chicago Medical College and completed the course two years later.

**Dr. Henry Cropsey Cooper,** a son of Dr. Edward C. Cooper and a nephew of Peter Cooper, died last week at his home in Woodridge, N. J. He was born in 1829, was a graduate of the College of the City of New York and the College of Physicians and Surgeons, and served as a ship surgeon for several voyages on a sailing vessel between New York and Liverpool. He was a practicing physician in this city when the civil war broke out, and entered the Union army as captain in a company of the 7th New Jersey Volunteers. Dr. Cooper was wounded and was a prisoner for a time in Libby prison. After the war he became associated with his cousin Edward Cooper, and Abram S. Hewitt, in various iron works and mining enterprises. Dr. Cooper had a summer home in Woodridge, and at one time lived in Boiling Springs. His death was due to cancer of the stomach. He leaves a wife and one daughter.

**Dr. Thomas R. Dupuis,** surgeon to the City Hospital of Kingston, Ontario, died June 27, aged 60 years. He was vice-president of the Canadian Medical Association in 1886, and had been since 1871 one of the professors of the Royal College of Physicians and Surgeons, Kingston. He was a member of the Royal College of Surgeons, England. He was a facile writer both in verse and prose, and an eloquent and instructive lecturer.

**Dr. Henry Fisher,** a well known dentist of St. Louis, died Aug. 2.

**Dr. Perkins Bigelow,** died at Mansfield, Ohio, Aug. 4, 1893.

**Dr. J. D. Seawright** died at Frankfort, Mo., Aug. 7.

## DOMESTIC CORRESPONDENCE.

### An Admonition.

EVANSVILLE, IND., Aug. 2nd, 1893.

*To Whom It May Concern:*—Boast not, my brother, nor be too greatly elated over your erudition, skill and ability in matters medical, for the *facts thou knowest not,* are many times more numerous than the *facts* of which thou *art cognizant,* and the time is yet when men are greatest according to their ability to conceal their ignorance under the habiliments of learning. J. B. WEEVER.

### Pass Him Around.

BENTON HARBOR, MICH., Aug. 5th, 1893.

*To the Editor:*—Dear Sir—It may be outside the province of THE JOURNAL to publish "dead beats," but, if you think it worth while I would like to warn the fraternity against one C. H. Warner, who claims to be a poor doctor from Florida going to relations in the North, but his wife being taken sick on the way, his money was used up, and he is unable to go on with his sick wife and three small children. This story seldom fails to secure enough from sympathetic physicians and dentists (whom he also works) to enable him to go on (probably) toward the "Fair."

He refers to Friendship Lodge K. of P. of Gainsville, Fla. for his standing as a gentleman, but there is no such lodge, and the Mt. Vernon Lodge, No. 20 of that city know of no such man. If this is of any use to you and you can save any of the fraternity from becoming swindled,

I am respectfully, WAKEMAN RYAN, M.D.

## MISCELLANY.

**The Railroads and the Board of Health.**—The following is the full text of the decision of the Michigan Circuit Court to which we referred in our last issue:

*Circuit Court of the United States, Western District of Michigan, Northern Division Minneapolis, St. Paul & Ste. Marie Railway Company vs. Samuel G. Milner et. al., Members of and constituting the State Board of Health of Michigan.*

On motion for a preliminary injunction before Judges Severens and Sage, the bill sets forth that the complainant, a corporation of the State of Michigan, is and has been for several years past engaged under a traffic arrangement with the Canadian Pacific Railway Company in the transportation of passengers on through tickets from Quebec westward through Canada, and over the line of the complainant's railway to and through the States of Michigan, Wisconsin, Minnesota and North Dakota, also eastward from those States through Canada to Quebec, a large portion of the passengers westward being persons traveling from Norway and Sweden to points in said States.

The defendants it is averred constitute the State Board of Health of Michigan acting under an Act passed by the legislatures of said State, and approved June 20, 1883, entitled an Act to provide for the prevention of the introduction and spread of cholera and other dangerous communicable diseases as amended by an Act approved April 25, 1893. The bill has attached to it as exhibits a copy of such of said acts and of certain rules adopted by said Board purported to be issued under and by virtue of the authority conferred by said Amendatory Act. It is further averred that said Board acting through its secretary and one of its inspectors, and in pursuance of said rules, is daily detaining and attempting to detain passengers on said Canadian Pacific Railway at the point opposite Sault Ste. Marie, Mich., and prohibiting their entering the State of Michigan until they have undergone the quarantine detention and until the disinfection of their baggage as prescribed in said rules. It is averred that this detention, examination and process of disinfection of baggage is applied to all emigrants irrespective of whether they came from an infected or healthy locality abroad and without regard to their point of destination. It is further averred that all said emigrants and travelers have been before said detention inspected by United States officials detailed for said purpose and that complainant has not received nor permitted to be conveyed within the State of Michigan any passenger, traveler or emigrant coming from any European port through the Dominion of Canada excepting such as have presented a certificate of inspection of the United States Inspector. It is also averred that said Board is threatening to arrest officials and employes of complainant unless complainant shall submit to and comply with said requirements of said Board.

The claim is that the rules and action of said Board of Health are in direct violation of Section 8, Article 1, of the Constitution of the United States, in that they attempt to regulate and prohibit commerce with foreign nations; and that they are also in violation of the treaty made by and between the United States and Norway and Sweden, and now existing; also that they are over above, and beyond the powers conferred upon said Board by said Act and Amendatory Act of the Legislature of Michigan.

The bill then sets forth averments of irreparable damages and prays for an injunction.

The motion for a preliminary injunction will be overruled for the following reasons:

1. In Brown vs. Maryland, 12 Wheaton 419–433, Chief Justice Marshall recognized that the removal or destruction of infectious or unsound articles was undoubtedly an exercise of the police power of the State, and an exception to the prohibition resulting from the exclusive power of Congress to regulate the operations of foreign and interstate commerce, and he says that laws of the United States expressly sanction the health laws of the State. In the license cases 5 Howard, 504, 576, Chief Justice Taney declares that it must be remembered that disease, pestilence and pauperism are not subjects of commerce although sometimes among the attendant evils. They are not things to be regulated and trafficked in, but to be prevented as far as human foresight or human means can guard against them. In Ceatcher vs. Kentucky, 141 U. S. 47, Justice Bradley referrs to these cases with approval and states with great clearness and force the distinction between the exercise of its police

power by a State and an attempt to legislate upon matters of interstate or foreign commerce, which are exclusively within the power of the Federal government. These authorities render it unnecessary to refer particularly to the cases cited for the complainant. It is sufficient to say that they all relate to State enactments concerning articles of commerce and thence are not applicable here. Moreover, the Quarantine Act of Congress, approved February 15, 1893, expressly recognizes the validity of State laws, and in Section 3 requires the supervising surgeon general of the Marine Hospital Service to coöperate with and aid State and municipal Boards of Health in the execution and enforcement of their rules and regulations.

2. We find nothing in any existing treaty with Norway and Sweden which conflicts with the institution or enforcement by any one or more of the States of this Union of quarantine regulations.

3. We do not deem it necessary to express an opinion whether the provision of the Michigan statute making it a misdemeanor to violate the rules of the State Board of Health, adopted in pursuance of the Act, is constitutional or valid, for we should not, even if we were of opinion that it is unconstitutional undertake to issue an injunction against criminal prosecution by the State. That the legislature might authorize the Board to adopt rules is, we think, beyond question. Such rules are essential to the proper enforcement of the law.

4. To the objection that passengers from non-infected countries and localities are detained, the answer is that such detentions are in the nature of the case to a certain extent unavoidable, and passengers from such countries and localities may have become properly subject to detention by reason of having mingled with others who could communicate pestilence or disease to which they themselves had been exposed or subjected. An opportunity for separation is indispensable also.

5. The objection that passengers who had certificates from United States inspectors were detained is not tenable. The States may exercise their police power according to their own discretion and by means of their own officials and methods. The inconvenience resulting to emigrants and travelers from being halted and subjected to examination and detention at State lines is of trifling importance at a time when every effort is required and is being put forth to prevent the introduction and spread of pestilential and communicable diseases.

The costs and charges which are incurred in such quarantine inspection may lawfully be imposed on the railway company, as being incident to the business in which they are engaged. The costs of the motion will be taxed to the complainant.

H. F. SEVERENS.
GEO. R. SAGE.

July 29, 1893.

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**Boston City Hospital.**—The city government has appropriated $400,000 for the improvement of the Boston City hospital. An interview in the *Boston Herald* with the president of the Board of Trustees states that:

"It is proposed, with the accession of this $400,000 appropriation from the city, to push forward pathological and surgical improvements with the utmost possible speed, and as soon as the East Chester park hospital for contagious diseases shall be finished, the two wards which are now used for diphtheria and scarlet fever can be used for medical cases, thereby giving increased accommodations for about sixty patients.

"During the year ending April 10, 1893, 460 patients were rejected, and during the preceding year 571 patients, or a total of 1,031 patients whose cases demanded admission to the hospital, and who would have been received were it not for the fact that the hospital was full at the time of their application.

"With our new appropriations," continued Mr. Shuman, "we shall complete the East Chester park hospital, and erect a new building especially for surgical operations.

"Our new surgical building will be constructed of non-absorbent material, the floors and tiles of marble, the wainscoting of marble, the walls of hard non-absorbent finish, and the furnishings and utensils of glass or iron, or other non-absorbent material.

"We shall prepare additional rooms for the purpose of sterilizing at a high temperature not only all the instruments, but all dressings, sheets, towels and the clothing worn by the surgeon and his assistants.

"We shall also provide additional facilities for baths and for disinfecting the operator and his assistants.

"We propose to construct laboratories for the analysis and study of surgical diseases, and several small rooms, so that different surgeons can operate in different rooms at the same time. At present we have only one operating room, and oftentimes several surgeons have to use this at the same time.

"We propose also to arrange rooms where patients can be etherized separately, recovery rooms for the proper classification of cases, also rooms where capital operations can be kept for a necessary time in perfect quietness, with more care and freedom from dust and poisonous germs; also consulting rooms for surgeons.

"We shall also erect a mortuary chapel, where religious services may be held according to the religious faiths of the patients who die at the hospital.

"We shall also erect a two-story building for the isolation of surgical cases in separate rooms. At present, the cases of surgical diseases which develop into delirium tremens are placed with ordinary surgical and medical cases.

"We have, moreover, no proper space in which to put the large number of alcoholic cases which, in spite of our rules, we are obliged by humanity to admit.

"I feel confident that when the plans of the trustees are carried out, the Boston City hospital will rank as high as any institution for the amelioration of suffering either in this country or in Europe.

"We have on our staff, Dr. D. W. Cheever, senior surgeon; Dr. H. W. Williams, oculist; Prof. W. T. Councilman, and others.

"The meditated improvements will be consummated with the utmost celerity and dispatch, but it will take the best part of a year before we can complete our present undertakings."

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**Mortality of Tennessee Prisoners.**—Dr. P. D. Sims of the Tennessee State Board of Health, made the following statement in a paper read at the National Prison Association and reproduced in the Tennessee State Board of Health *Bulletin*, July 20, 1893. We are credibly informed that the condition of affairs in North Carolina is much the same as in Tennessee:

"I have been for a number of years a member of the Tennessee State Board of Health. Eight or ten years ago the chairman of our Prison Committee left the Board, and I was made chairman of that committee. I began to investigate the question. It had generally gone along as such matters do, with a careless supervision, but I thought it my duty to look into it, and give it a close investigation. The first thing I did was to investigate the prison reports to see what they were doing. My attention was at once attracted to the great mortality in the prison. We were sustaining a mortality of 77 per 1,000 per annum, while the mortality of some of our branch prisons ran up to 100 per 1,000 per annum. That struck me as being inordinately large, but as I was not conversant with the management of prisons I began writing to various prisons throughout the country for their reports, to ascertain what their mortality was. In this investigation I found the average mortality in all lease prisons to be 60.4 per 1,000, and that the mortality in non-lease prisons was 15.1 per 1,000, exactly one-fourth that of lease prisons. I made up my mind at once that whatever there might be of good in it, we could not afford to maintain the system that was killing four times as many as other systems. We have no right to take men's lives in our efforts to reform them or protect society. Society has a right to protect itself against the evil doer, but the best way to do that is to convert the man or woman from an evil doer into a doer of good; to convert a destructive member of society into a constructive member of society. All of that is lost sight of in the lease system."

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**A Prophecy.**—"Will the coming man use both arms?" asks a scientist. He will if she will permit it.—*Detroit Free Press*

**Is now a Consulting Surgeon-in-Chief.**—Dr. George F. Shrady, the editor of the N. Y. *Medical Record*, has been appointed consulting surgeon-in-chief to the hospitals established by the New York City Board of Health.

**Will go to Corea.**—Dr. Charles H. Irvin of Mansfield, O., has been appointed surgeon to the Presbyterian Hospital in Seoul, Corea. The hospital is quite extensive, some 4,780 cases having been there last year. The building cost the Presbyterian Church $45,000. Two trained nurses (American) are in charge of the native nurses. The Corean government furnishes the apothecaries' equipment.

**Must Not Touch Sweat Shops.**—Hereafter the Health Department of Chicago will not interfere in the work of the sweat-shop inspectors. Legal advice is to the effect that the department has only sanitary supervision and nothing to do with the employment of children.

**Yellow Fever.**—SAN FRANCISCO, August 4.—Yellow fever is reported to be raging at Port Limon, on the Atlantic side of Costa Rica, and with such fatal effect that half the population have fallen victims to the dread disease. Among the dead are three physicians who had been sent to Port Limon by the government to assist in checking the ravages of the epidemic. Two deaths from yellow fever were officially announced at Pensacola, Fla., on the 10th.

**Must not Cut Horses' Tails.**—Largely through the instrumentality of the physicians of Massachusetts, a law has been adopted in that State prohibiting the practice of docking the tails of horses, "unless the same is proved to be done for the benefit of the animal." Whoever shall cause this cutting of the solid part of the tail, or shall assist in doing it, may be punished by imprisonment not to exceed one year, or by fine of not less than $250. The Society for the Prevention of Cruelty to Animals receives one-half of the fine when the agents of that society are the complainants.

**Cholera.**—The press dispatches state the progress of cholera as follows:

ROME, Aug. 4.—The *Tribuna* says that from Thursday noon to noon to-day twenty new cases of cholera and fourteen deaths were reported to the authorities in Naples.

ROME, Aug. 6.—It is officially announced that between noon Friday and noon to-day twenty new cases of cholera and thirteen deaths have been reported in Naples and three new cases and one death in Rome.

BUCHAREST, Aug. 6.—Cholera has broken out in the garrison at Soolina.

**Signed his own Death Certificate.**—Dr. George A. Fischer, a resident of Rochester for twelve years, took his own life by an overdose of chloral hydrate. He left behind him a certificate of death properly filled out, together with the following autobiographic sketch for the benefit of the press reporters:

"George A. Fischer, born at Hanover, January 27, 1848. Graduated from Hanover Lyceum. Volunteered 1866 in Hanover Horse Guards; made officer June 27. After the battle of Sangensalka served in the same capacity in 1856; Westfalven war 1870. Came to United States in 1873. Lost caste and came down to be an American doctor. Died according to certificate, to be found in desk.

"With kind regards, Yankees. Signed, G. Fischer, No. 31 Heaven, front parlor."

He was a graduate in medicine from one of the institutions of Baltimore. He was subject to periods of depression and despondency that were intensified rather than relieved by the self-administration of narcotics and intoxicants.

**Fast Days Postponed.**—A cable dispatch says: "The Pope has directed the Catholic inhabitants of Naples not to fast Fridays as long as the cholera prevails. He fears the physical weakness engendered by fasting might cause the people to be more susceptible to the disease. The meeting of the International Medical Congress in Rome has been postponed until April."

**The Ford's Theater Disaster.**—During the past week the legal process of investigating the responsibility for the disaster in the old Ford's Theater building, Washington, D. C., by which so many of the clerks of the Record and Pension Office of the War Department lost their lives or were more or less disabled, advanced another step in its progress by the arraignment of four men charged by the jury with having caused the loss of life. These were Colonel F. C. Ainsworth, Chief of the Office; W. K. Covert, Superintendent, and Francis Sasse, Engineer of the building, and G. W. Dant, the contractor who undertook the work of introducing the electric light plant during which the pillars supporting the floors became undermined and part of the three upper floors were thereby precipitated into the basement. The defendants pleaded not guilty to the indictment; but it was stipulated that they might withdraw this plea on or before September 15 and enter any other plea or motion they might see fit. It is understood that under this stipulation they will each hereafter demur to the indictment or move to quash it. The civil standing of Colonel Ainsworth does not appear to affect his position in the service of the government, for although arraigned for manslaughter, and under bail he continues to discharge the duties of his office and to look after the interests of his clerks and of the government just as if no accident had happened on June 9, last.

**Change of Address.**—Dr. H. E. W. Barnes to Creston, Ia.

## THE PUBLIC SERVICE.

**Army Changes.** Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from July 29, 1893, to August 4, 1893.

Capt. WALTER D. MCCAW, Asst. Surgeon, is relieved from duty at Camp Pilot Butte, Wyo., and ordered to the Presidio of San Francisco, Cal., for duty.

Capt. RICHARD W. JOHNSON, Asst. Surgeon, will report on or before August 6, 1893, to the commanding officer, Ft. McHenry, Md., for temporary duty at that post during the absence of Capt. CHARLES B. EWING, Asst. Surgeon.

Major ALFRED A. WOODHULL, Surgeon U. S. A., is granted leave of absence for one month and fifteen days, on account of sickness, to take effect on or about August 15, 1893.

Capt. EDWARD C. CARTER, Asst. Surgeon U. S. A., is granted leave of absence for two months, to take effect about August 10, 1893.

### LETTERS RECEIVED.

(**A**) Atkinson, W. B., Philadelphia; (**B**) Booth, Chas., Lowmoor, Va.; (**C**) Comegys, C. G., Cincinnati, Ohio; Chambers, J. H. & Co., St. Louis, Mo.; Cobb, J. O., Port Townsend, Wash.; (**D**) Drew, C., Jacksonville, Fla.; Dudley, E. H., Janesville, Wis.; (**G**) Guiteras, John, Philadelphia, Pa.; (**H**) Howe, Jas. Lewis, Louisville, Ky.; (**K**) King, Jas. K., Watkins, N. Y.; Kirkpatrick, A. B., Philadelphia; Kenyon, F., Scipio, N. Y.; (**L**) Laidley, L. H., St. Louis, Mo.; LaPlace, Ernest, Philadelphia, Pa.; (**M**) Minard, E. J. C., Brooklyn, N. Y.; McCurdy, R. L., Freeport, Pa.; Molley, E. J., New York, N. Y.; Murfree, J. B., Murfreesboro, Tenn.; (**R**) Reed, C. A. L., Cincinnati, O.; (**S**) Stahley, G. D., Gettysburg, Pa.; Stowell, C. H., Washington, D. C.; Shidler, G. W., York, Neb.; Smart, Chas., Washington; (**T**) Tracy, Edward A., Boston; (**V**) Vaughan, Geo. T., U. S. Marine Hosp. Serv., Chicago; (**W**) Wyckoff, R. M., Brooklyn, N. Y.; Warner & Co., W. R., Philadelphia, Pa.; Weaver, J. B., Evansville, Ind.